

User Manual  
PARKWAY



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## Imprint



INDECT Electronics & Distribution GmbH  
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A-2345

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## Copyright

# User manual

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Rennweg 83  
Brunn am Gebirge  
A-2345

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## How to use this manual

This chapter contains information about the correct handling of this user manual. Read this chapter thoroughly for an efficient and time-saving system and software operation.

### Navigation

The table of contents comprises three levels to enable you to browse the user manual quickly. Also use the bookmarks in Acrobat Reader in the digital version.

To facilitate navigation within the manual page references were used to refer to the respective spots in the manual, e.g.:

(...) click on SENSOR (cf. page 19)

Browse to the referred page in the printed version or click on the page reference in the digital version, which works like a hyperlink.

### Formats

The following elements are marked with SMALL CAPS in the user manual:

- Menus (e.g. SET NEW SENSOR)
- Commands (e.g. ENTER)
- Buttons (e.g. PRINT)

Paths are marked by monospace letters, e.g. C:\Programs\iVIS.

### Symbols

The following symbols are used:



#### **Attention!**

This symbol indicates that you should take certain measures to avoid loss of data or malfunction of the system or the software.



#### **Info**

This symbol indicates advice and information for a more efficient use of the system and the software.

### Enumerations

Subsequent steps are indicated by numbers, e.g.:

1. Carry out step one.
2. Then step two.
3. Then step three.

Various possibilities or lists are labeled with black bullets:

- You can select this command on the tool bar.
- Or via this button.
- Or via this shortcut key.

## Software handling

### How to use mouse and keyboard

- In most cases operations are carried out with the mouse.
- Select buttons or menus with the left mouse button.
- Select sensors or other components with the left mouse button.
- In some windows a menu box appears when you click the right/middle mouse button or the scroll wheel. Select items with the left mouse button.
- Enter parameters with the keyboard.

You find more specific information about the software handling at the beginning of each software chapter (iVIS, Statistics, iCOM).

## Windows

Program and document windows have a blue titlebar on the top.

This titlebar has the following functions:



Click this application icon with the right or left mouse button:

- Restore: restores the window to its previous size and position.
- Move: not available in full screen mode!
  1. Move mouse pointer (four-headed arrow) onto the blue title bar
  2. Click and hold left mouse button and move the window.
- Size: not available in full screen mode!
  1. Move mouse pointer (four-headed arrow) to any of the four window corners.
  2. Click and hold left mouse button and resize the window.



- Minimize: window is minimized (cf. below)
- Maximize: window is maximized (cf. below)
- Close: Close program or window.



### Info

The application icon above can look different, but it is always in the upper left corner of a window.



**Minimize window:** The window disappears in the taskbar. Click on the window button in the taskbar to reopen it.



**Maximize window:** The window switches to full screen mode.



**Make window smaller:** The window becomes smaller and can be placed anywhere on the screen.



**Close:** Close program or window.

## Administrator

Some functions and settings can only be carried out by the Administrator from the partner company which has installed and maintains the system. These functions are marked with “Administrator” in the user manual.

## Passwords

Some applications and functions require a password. There are three different user types:

- Not registered; only monitoring
- User “Garage”: can change certain sensor settings; cannot change the master data.
- User “Indect”: has access to all functions and settings.



### Info

If there has been no action for 60 seconds after you have entered the password you will be asked to enter it again in case of password protected applications.

## **Licencing**

If the software has not been licenced the respective program (iCOM, iVIS) will not be closed but its operation will be stopped after an hour. Take up contact with your system partner or Administrator.

## **Print**

You can print certain documents in the programs iVIS and Statistics. Check the printer connection and the settings.

## **Troubleshooting**

If you encounter a problem during operation refer to the Troubleshooting. Each software chapter (iVIS, Statistics, iCOM) has a troubleshooting subchapter.

## **Glossary**

At the end of the user manual you find an glossary with all abbreviations and relevant terms.

## **Appendix**

The appendix contains user related material and is added after the last page of the user manual. Each document added in the appendix has its own page numbering.

# System Overview

## Introduction

A parking guidance system with a single space detection system significantly increases the occupancy of your car park and saves your clients' valuable time when they are looking for a parking space.

Our single space detection system PARKWAY is part of our intelligent parking guidance system. It offers you the following advantages:

- most precise detection
- components free from wear and tear
- fully protected and resistant sensor technology
- optimal guidance through prominent, perfectly visible and super bright single space LEDs
- quasi self-explanatory software operation
- interfaces with other car park systems
- low costs concerning the infrastructure preparation work and the wiring
- simple installation and connection, which can be carried out by any electrician company
- future proof through state-of-the-art components and remote serviceable sensor firmware

## System components overview

You find the technical details and features of all components of the system in the fact sheets (separate PDF documents). There, you also find the model numbers and names for your order placement.

The system components are also connected to the bus and are managed via the program iCOM and the iCOM computer, the obtained data are transferred to the iVIS computer (in case of a separate iVIS computer).

## Structure and function of Parkway

### System scheme and facility planning

At the end of this chapter you find a system chart of the parking guidance system.

On the basis of the system chart your system partner will explain the basic structure of the system to you when you receive your initial instruction.

Your system partner plans your parking facility according to the blueprints of the car park and installs the components (sensors, signs, power supply modules, etc.) there. All connected sensors are allocated to their areas/zones/parking levels and configured according to their location; also the signs and other guidance components are allocated to their areas/zones/parking levels.

### Functions of the car park guidance system

The iCOM computer(s) scan all COM-ports and their connected bus components every 2 seconds. Then, the current occupancy is computed and the configured signs are fed with the counting data (depending on the settings such as sensitivity for counting). Subsequently the current data are sent to the iVIS computer(s) where the new status of all components is displayed.



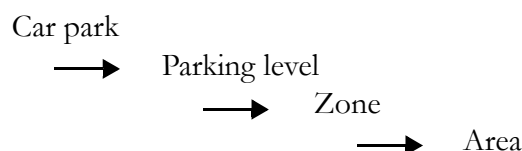
#### Attention!

Thus it is important that the iCOM computer(s) and the software are running around the clock to control the signs.

### How a car park is organised

This allocation simplifies administration and communication among the components and makes possible an unambiguous identification of each component. Your clients are automatically guided to a vacant parking space.

For an optimal administration, parking guidance and detection your car park has been subdivided into the following hierarchical sections:



Each single space sensor and each guidance component (signs, displays, loops etc.) has been unequivocally allocated to its corresponding section.

E.g. sensor XYZ is allocated to Car park 1, Parking level 3, Zone 2, Area 4.

The communication between the control center and the car park is carried out via the so-called iCOM-computers, which get every 2 seconds a signal from all Com-interfaces, to which all sensors are connected.

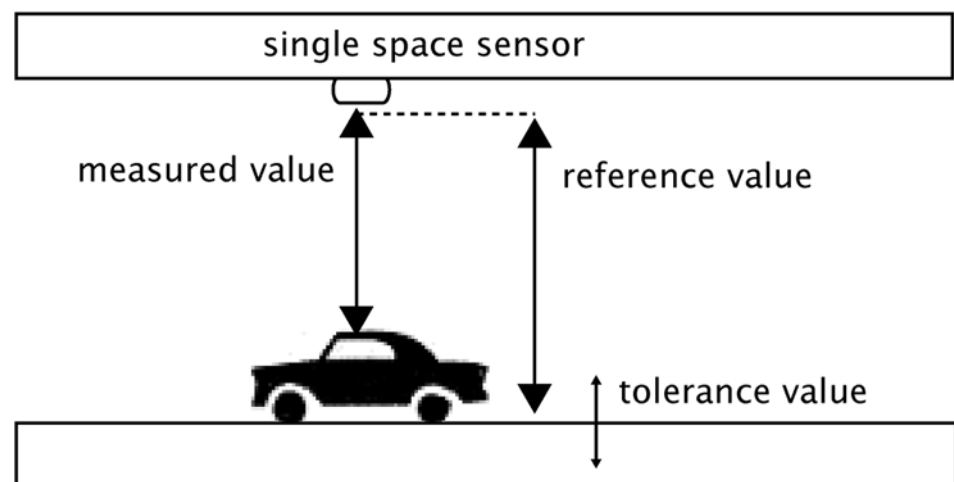
## Information on the System Overview

Compare the following description to the system chart at the end of this chapter.

Each sensor is connected to the bus which leads to the respective communication module. The communication modules are connected to the iCOM-computer(s). The space indicator lamp is connected directly to the single space sensor. Further components which may be connected to the communication module are: multi-function modules with connected passage counters or signs, or master prints with connected 7-segment prints.

The iCOM-computers communicate with the iVIS-computer(s) (depending on the size of the car park), which serve for visualization and administration and statistical data collection.

### How the ultrasound sensor works:



**Fig. 1:** How do ultrasound sensors work

The tolerance value serves for compensating for measuring differences caused by temperature variations.

The sensor measures the previously set reference value (Ref.) of a vacant parking space. The reference value is the distance between the single space sensor and the floor. If a vehicle enters the parking space the measured distance changes. This new measured distance is the measured value. If this measured value deviates from the reference value by more than the tolerance value (Tol. +/-) the parking space is occupied and switches to red.

## Types of areas

In addition, there are two types of **areas**:

- Areas with single space detection:  
The single space sensors give feedback to the counter displays at the entry to the area.

- Areas with loop detection:  
For areas without single space sensors (e.g. open air areas). The loop detection counts the vehicles which enter and exit the area and gives feedback to the counter displays at the entry to the area, which show the number of spaces which are still vacant.

### Efficiency when looking for a parking space

To enable your clients to find a parking space as fast as possible you can change the settings of your system so that counter displays, loop detectors and signs already switch to occupied even though spaces are still vacant. Thus you avoid that too many vehicles enter a level/zone/area but guide them to the nearest parking space already before that.

### Area within an area

This function can be applied when a parking facility can only be partly equipped with single space detectors (e.g. if a ceiling installation is not possible) due to its construction features. Vehicles cross a loop detection and enter an area. The loop detection counts down the vacant parking spaces. When the vehicle enters the area within the area with single space detection and parks there the loop detector counts up a vacant parking space.

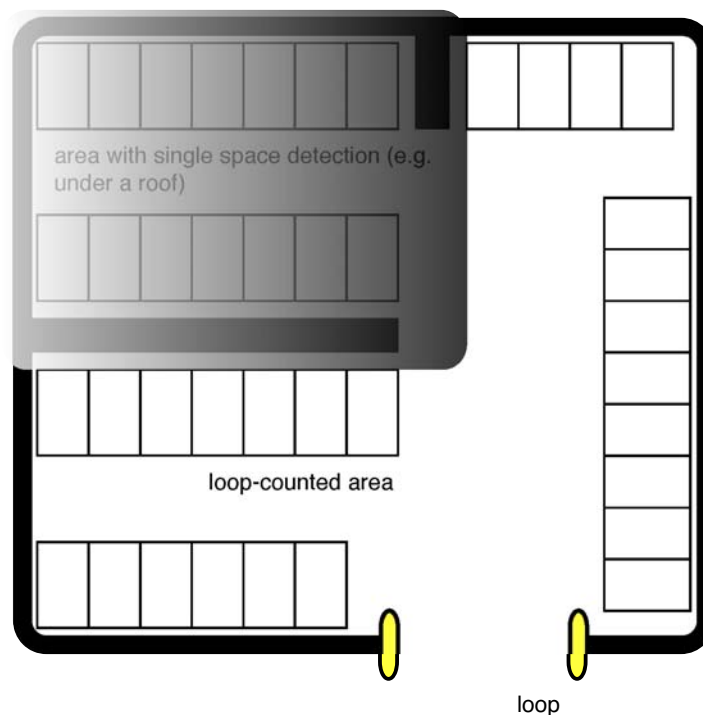


Fig. 2: Area within an area



# iVIS

Version 1.1.4

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## Introduction

The program iVIS gives you an overview of the floor plans of all parking levels of your car park. The floor plans show all single space sensors and other guidance components.

You can switch between several view modes, configure sensors, show parking spaces according to the time they have been occupied, change settings and print floor plans.

The program iVIS is not necessary for the automatic control of the sensors and signs, since this task is carried out by iCOM. iVIS, however, is responsible for the statistical database entries.

## Start and close

iVIS is preinstalled and starts automatically after the computer has booted if iVIS is installed on a separate iVIS-computer.

If iVIS is installed on a computer together with iCOM, iVIS must be started individually when needed.

### Start

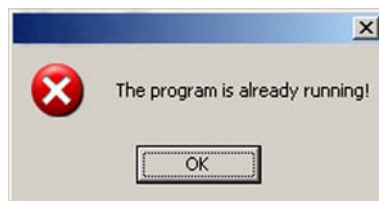
Double-click the iVIS icon on your desktop.

You can start iVIS alternatively in the Windows Explorer from the path `C:\Programs\Server\UZ.exe`.



#### Attention!

The program iVIS may only run once per computer. Otherwise the following error message appears:



**Fig. 3:** Error message: iVIS started twice

Click OK or press ENTER.

## Overview

After the program start iVIS shows an overview of all configured parking levels.

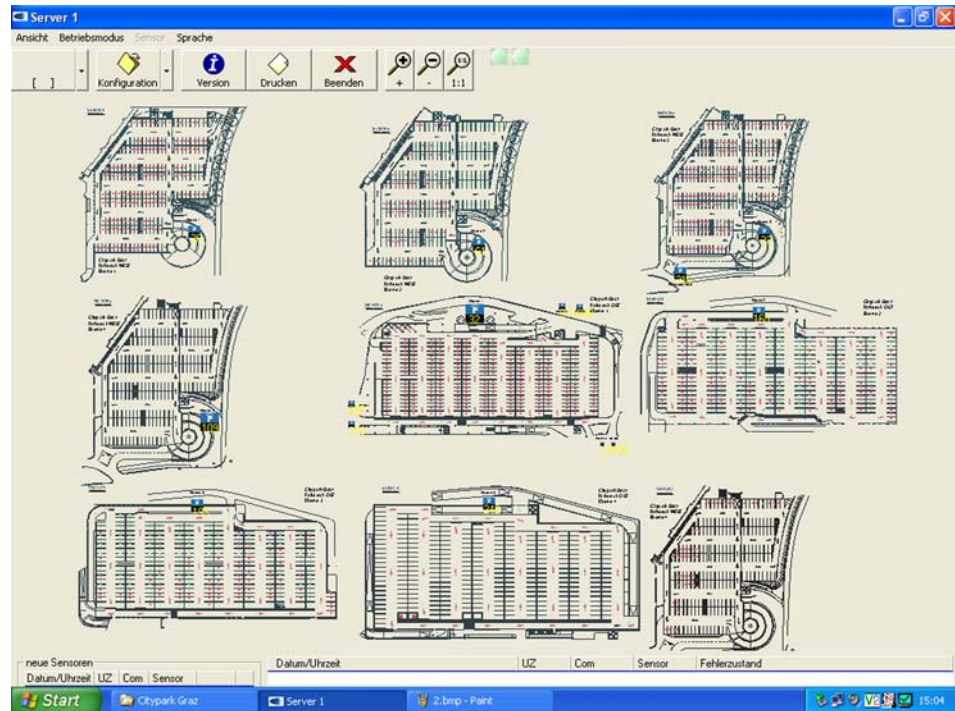


Fig. 4: Overview

## Check

Click through all parking levels to check the function of all parking levels and components:

1. Click on the small arrow of the button [ ] on the left upper part of the screen.
2. Select PARKING LEVEL 0.
3. Click through all configured parking levels and check if everything is displayed correctly and if all sensors and components are working properly.

In case a sensor or its connection do not work the respective symbol in the floor plan turns yellow. Try to reset the sensor with RESET:

1. Click on the defective sensor.
2. Click the middle mouse button.
3. A menu appears.
4. Move the mouse pointer to SENSOR.
5. Click RESET.

If the sensor fails to respond even after several tries, the hardware is probably defective. Check the sensor hardware.

## How to close the software manually

iVIS can be closed manually. However, iVIS must then be restarted manually when needed.



Close iVIS by clicking on the button EXIT on the menu bar.

Before iVIS is closed you will be asked whether you want to save the current configuration.



**Fig. 5:** Save configuration

If you want to keep the current configuration, click on JA (=YES).

Next time iVIS will be started with the current settings.



### Attention!

Always save after having changed the settings. Otherwise the changes will be lost in case of a system or program reboot!

Click on: CONFIGURATION > SAVE.

## User interface

The following figure gives you an overview of all fields and functions of iVIS:

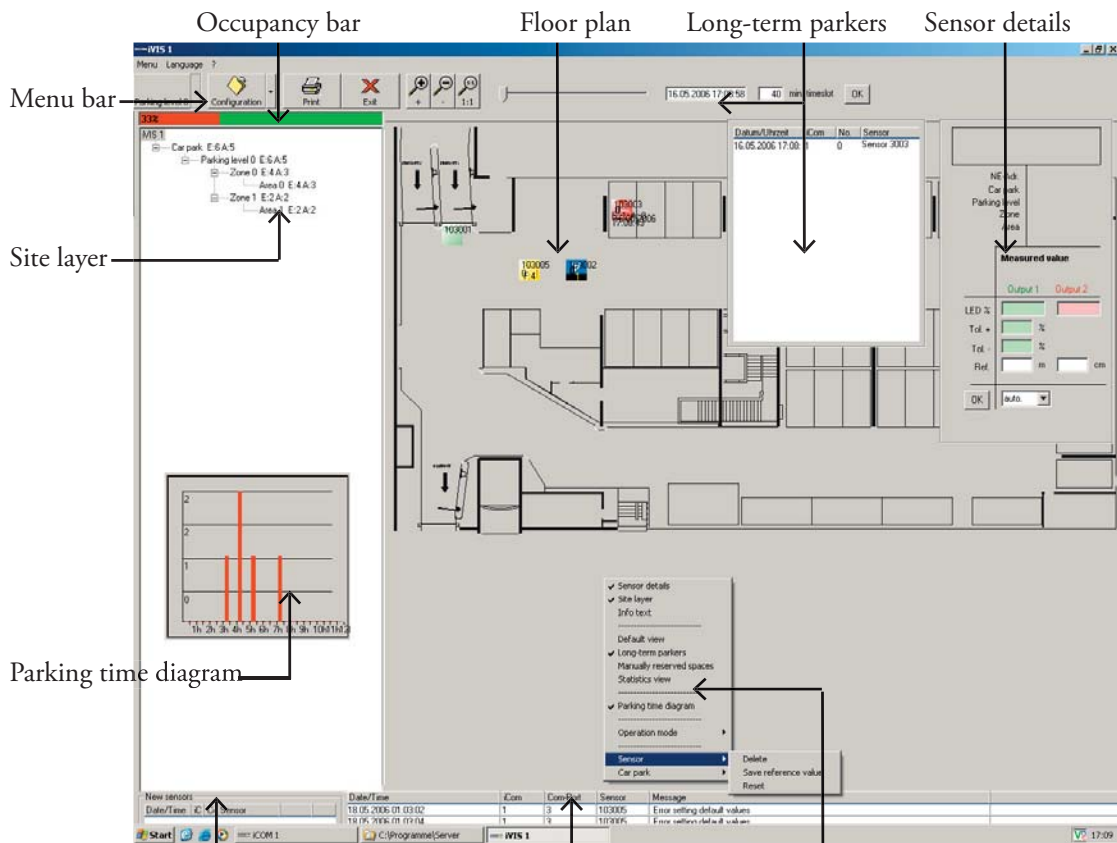


Fig. 6: iVIS everything open

Keep this figure ready for reference purposes while you read the manual.

## Adjustable windows

In contrast to the program iCOM you can adjust the size and/or move the following windows of iVIS:

- Sensor details
- Parking time diagram
- Long-term parkers
- Site layer (only resizing)
- New sensors

Proceed as follows:

1. Move the mouse pointer to the upper part of the window to be moved.
2. Click and hold the left mouse button.

3. Drag the window to the desired spot.
4. Release the mouse button.

For further details refer to the respective subchapters.

## How to use mouse and keyboard

Use the mouse to operate the software. All buttons are selected with the left mouse button.

Also the sensors and other components are selected with the left mouse button.

You can also select the parameters of the sensor details with the left mouse button and change them with the keyboard (cf. page 26).

Click the middle mouse button or the scroll wheel to open the MENU.

## Navigation

### Zoom in/out



Zoom in.  
(or press CTRL)



Zoom out.  
(or press SHIFT-CTRL)



The 1:1-BUTTON restores the program start view of the floor plan.

## How to highlight areas and zoom them in

1. Hold the left mouse button and move the mouse.
2. An area is marked yellow.
3. Release the mouse button to zoom in this area.

When you have magnified the floor plan sufficiently you can read the following information from the sensor symbols (according to the selected view):

- The individual address (with the preceding iCOM-number in case of huge parking facilities).
- The time since when the sensor has been vacant or occupied.

- The entries and exits.

## Scrolling

1. Click and hold the right mouse button.
2. A four-headed arrow appears instead of the mouse pointer.
3. Scroll around the floor plan.
4. Release the mouse button at the desired spot.



### Info

In case you lose track of where you currently are on the floor plan or have zoomed in too much so that the floor plan is “away” just click the 1:1-BUTTON. The start view of the floor plan will be restored.

## What can you see in the floor plan

In the floor plan all configured single space sensors, signs, display panels and other guidance components are shown.

## Sensor colours



Green Vacant



Red Occupied



Yellow Sensor does not respond.

## Sensor abbreviations

The following abbreviations describe the state of a sensor:

E	Echo detected
ME	Multiple echo detected.
EG	Echo green
MEG	Multiple echo green
ER	Echo red
MER	Multiple echo red

B	Blink mode active
XX	Reserved
F	Failure: The program tries to scan the respective sensor ten times (F:1 to F:10). If the sensor still fails to respond "F:10" is displayed. You can try to reset the sensor (cf. page 35) or restart iCOM (which communicates with the sensor and gives the data to iVIS) or restart the computer. If the failure occurs again it is likely that the configuration is incorrect or the sensor is defective (cf. page 38).



### Info

Generally the sensor symbol is green when the space indicator lamp of the respective space is green and red when the space indicator lamp is red, i.e. the feedback is real. Exception: operation mode red (cf. page 34).

## Buttons of the menu bar

In the following you find a description of the buttons of iVIS..

### MENU

In the menu you can choose between different views and carry out actions (cf. page 26).

You can also open the menu with the middle mouse button / the scroll wheel.

### LANGUAGE

Select a language.

?

- ADD LICENSE KEY: Enter your licence key.
- INFO: The software version is displayed.



Switch between different floor plan views.



- Click on the small arrow down to open other configured parking levels.
- Click on Parking level X to get different floor plan views.
  - [ ] shows all configured parking levels
  - [] [] shows the site layer and the current occupancy via the occupancy bars.

**Info**

- At program start an overview of all parking levels is displayed.
- Click through all parking levels at the beginning of every session to check if everything is working properly.
- Use the navigation buttons and functions to magnify or zoom out the respective view.



Click on the small arrow down next to CONFIGURATION. A submenu pops up:

- IMPORT FROM ICOM (Administrator)
- IMPORT FROM DATABASES (Administrator)
- SAVE: Saves the changed settings.  
Always save after having changed the settings. Otherwise the changes will be lost in case of a system or program reboot!
- LOAD (Administrator)
- DATA BASE BACKUP
- CONFIGURATION (Administrator)
- EVENT MANAGER (Administrator)

Users just need the option DATABASE BACKUP to save a backup manually, and the command SAVE in case you have changed something and want to keep this setting, e.g. the current view.



Print the current view of the parking level.

1. Use the navigation functions (cf. page 21) to adjust the view to be printed.
2. Click on PRINT.
3. A window pops up which shows the selected view.
4. Click on PRINT to print.
5. Click on EXIT to close the window.



Close the program iVIS.

Before iVIS is closed you will be asked whether you want to save the current configuration.

If you want to keep the current configuration, click on JA (=YES).

Next time iVIS will be started with the current settings.

**Attention!**

Always close iVIS with the button EXIT. Otherwise changed settings will not be saved.






Each green bullet is an interface with a connected iCOM computer. This function is reserved for Administrators.

## Occupancy bar

The occupancy bar shows the current occupancy of the complete car park in per cent.



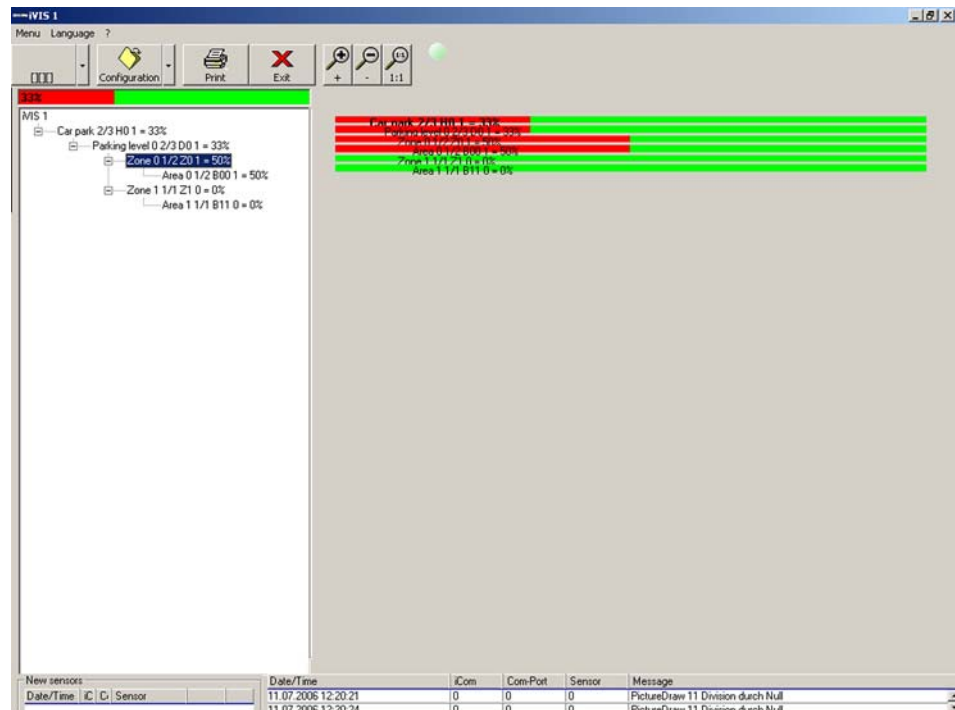
**Fig. 7: Occupancy bar**

If you select  from the button PARKING LEVEL the floor plan disappears and several bar charts are shown. You can zoom in and out (cf. page 21).

According to your Site layer view you see the occupancy of your car park, parking levels, zones or areas more or less detailed.

How to open the Site layer:

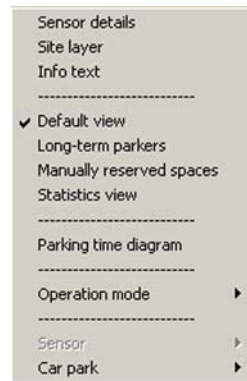
1. Open the menu.
2. Click on SITE LAYER.
3. Adjust the details by clicking on [+] or [-] directly below “iVIS 1” in the Site layer.
4. On the right hand side the respective occupancy bars appear:



**Fig. 8: Occupancy bars**

## Menu

Open the menu either by clicking on the button MENU on top of the screen or by clicking the middle mouse button / the scroll wheel anywhere on the floor plan.



**Fig. 9: Menu**

In the following the individual items and functions of the Menu are described.

### Sensor details

How to switch on the Sensor details:

Click on a sensor/sign and hold the CTRL-button to select several sensors or other components. The sensor details only display those parameters which are identical for all selected elements.

1. Click on SENSOR DETAILS.
2. Enter the password if it is required.
3. Click on a sensor, a sign, etc.
4. The sensor details are filled with data.

You can read and change the following information and settings of e.g. a single space sensor:

**Sensor 3003**  
 0 US System V2.3AA

NE-Adr: **2821**  
 Car park: **Car park**  
 Parking level: **Parking level 0**  
 Zone: **Zone 0**  
 Area: **Area 0**

**Measured value 0,58 m**

Output 1: **60** Output 2: **60**

LED %: **60** **60**  
 Tol. +: **5** %  
 Tol. -: **5** %  
 Ref.: **0** m **58** cm

OK auto.

← Component + number  
 ← Firmware  
 ← Network address  
 ← Location  
 ← Currently measured value  
 ← LED brightness in %  
 ← Tolerance value +/- in %  
 ← Reference value  
 ← Sensor operation mode  
 ← Confirm changes

**Fig. 10: Sensor details of a single space sensor**

- **Sensor number** It consists of the Com-port number + module number of the sensor
- **Firmware** Firmware of the sensor
- **Location** The whereabouts of the sensor (car park, parking level, zone, area)
- **MEASURED VALUE** Currently measured value from the ultrasound sensor downwards.
- **LED %** Adjust the brightness of the space indicator LEDs between 0 - 100 % (corresponding to 0 - 20 mA).

- TOL. +/-

Tolerance value: Percentage value indicating when the LED switches to red if a value is measured above/below the reference value.

**Example:**

The reference value of a vacant single space is 2.50 m. The sensor switches to red at a tolerance value of +/- 5% at 2.123 or 2.525 m, respectively.

For a detailed description of how the ultrasound sensors work cf. page 13.

- REF.

Saved reference value of a vacant single space, that is, the distance between the ultrasound sensor and the floor.

Operation mode:

AUTO.	Automatic detection. When the parking space is occupied the space indicator lamp switches to red, when it is vacant, it switches to green.
RED	Red serves for the closing or reservation of parking areas. The space indicator lamp is manually switched to red, the statistics still regard the parking space as a vacant one. Its symbol stays green on the iVIS floor plan and only shows an additional icon (cf. page 34). If a vehicle enters the respective parking space the symbol in the iVIS floor plan switches to red. Thus all parking activities are registered in the statistics.
GREEN	The sensor is manually switched to permanent green.
LONG-TERM PARKERS	With this option the space indicator LEDs of the respective parking spaces start to blink after a certain occupied time which has been set by the Administrator. Long-term parkers are thus identified more easily.



**Info**

For a smooth operation we recommend to keep the automatic operation mode and only switch closed or restricted areas to red.

Always click OK after having changed settings.

The new settings are put into practice after a few seconds.

## Counter display

Counter displays (and other guidance components such as disabled parking spaces) show the following sensor details:

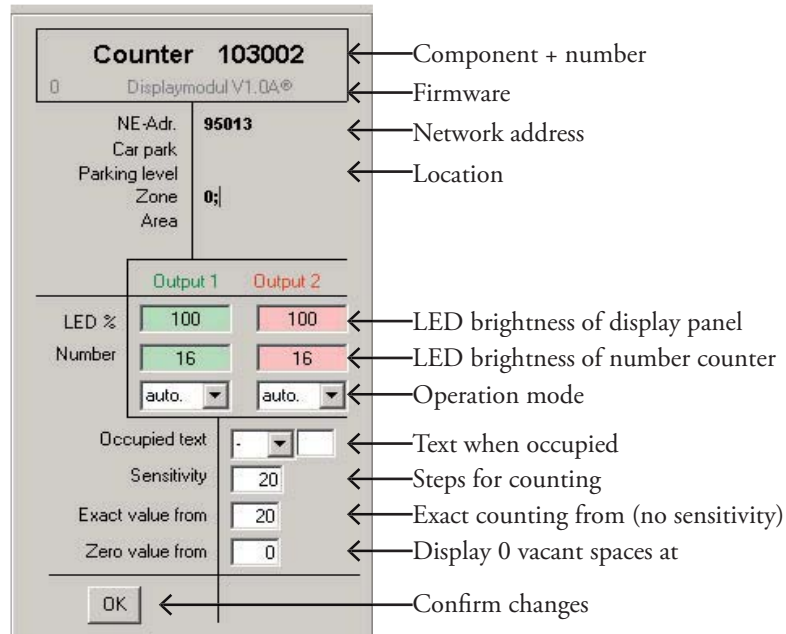


Fig. 11: Sensor details of a counter display

- LED % Adjust the brightness of the display between 0-100 % (corresponding to 0-20 mA).
- NUMBER Adjust the brightness of the number counter between 0-100 % (corresponding to 0-20 mA). Number counters are mostly connected to display panels.
- Operation mode
  - AUTO: Automatic detection. The display displays the data according to the inputs from the interfaces.
  - ON: The display is switched on.
  - OFF: The display is switched off (e.g. for energy saving purposes).
- OCCUPIED TEXT This text is shown as soon as the allocated area is occupied.
- SENSITIVITY Set the counting steps of the counter display;

### Example:

When you set “10” the counter display counts entering/leaving vehicles in steps of 10.

- COUNT EXACTLY FROM      The value from which on the counter display counts in steps of 1, that is, the sensitivity is switched off.
- DISPLAY 0 FROM      The number of still vacant parking spaces at which the display switches to occupied.

## Site layer

At program start the site layer is normally not shown.

How to switch on the site layer:

To switch off the site layer proceed equally.

1. Open the menu.
2. Click on SITE LAYER.
3. Enter the password if it is required.

The window SITE LAYER appears on the left side of the floor plan. It contains a schematic tree of all configured car parks/parking levels/zones/areas.

Click on [+] directly below “iVIS” to open the respective sublevels.

Click on [-] to close the respective sublevels.

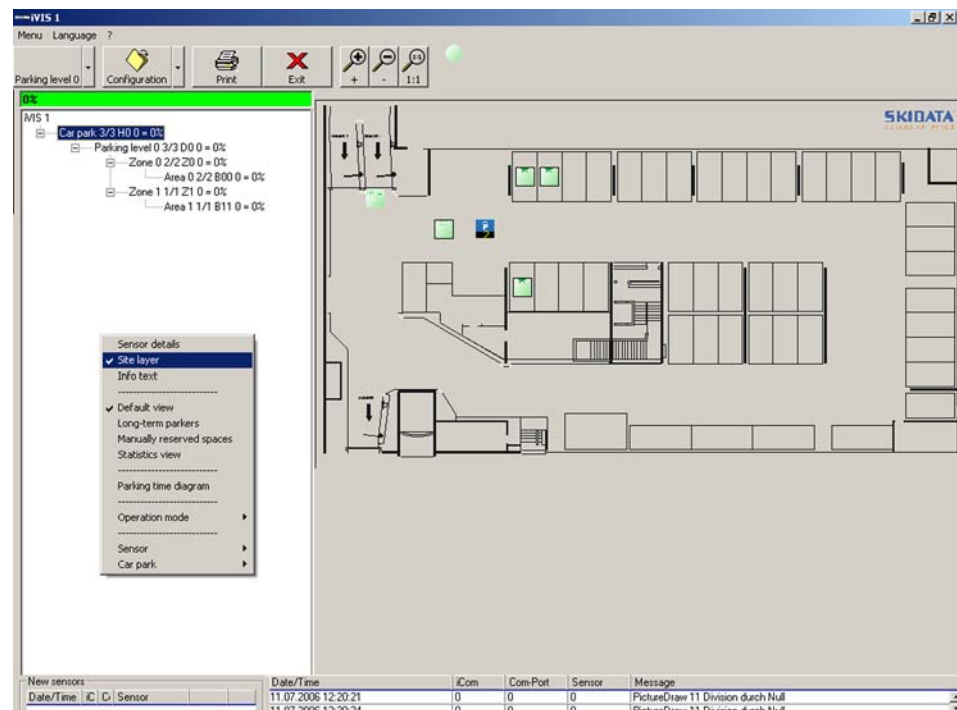


Fig. 12: Site layer

Double-click on the respective car park, parking level or zone to select the allocated spaces, which are marked with a black frame.



### Attention!

Only single space sensors are marked. Other components such as signs or display panels are not marked.

When the Sensor details are active you can:

- Switch all marked spaces to red, green or automatic.
- Manage and change the settings of the LEDs or other parameters of all marked spaces.

### Areas with loop detection

When you double-click on a zone with loop detection (indicated by a “D” next to the abbreviation) a window pops up which asks for the “Number of reserved spaces”.



Fig. 13: Number of reserved spaces

Since the loop detection can be inaccurate, e.g. when two vehicles pass the loop detection one closely behind the other, you can correct the value manually. Moreover, an adaptation takes place at 00:00 o'clock.

### 2 different views

As a user you can choose between two view modes of the Site layer.

1. Open the menu.
2. Select among
  - DEFAULT VIEW
  - LONG-TERM PARKERS
  - MANUALLY RESERVED SPACES
  - STATISTICS VIEW

### Default view and Manually reserved spaces

The Site layer shows the following information:

type – vacant spaces / available spaces – abbreviation = % usage

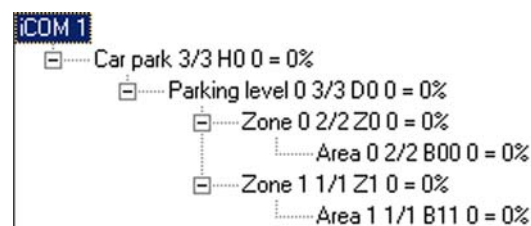


Fig. 14: Site layer: Default view

**Statistics view and  
Long-term parkers**

The Site layer shows the following information:

type – entries (E) – exits (A):

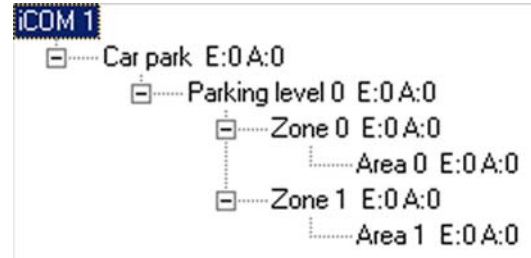


Fig. 15: Site layer: Statistics view

**Info text**

When you activate INFO TEXT a yellow information box appears as soon as you move the mouse pointer onto a sensor symbol.

How to activate Info text:

To switch off Info  
text proceed equally.

1. Open the menu.
2. Click INFO TEXT.
3. Move the mouse pointer onto a sensor symbol or other component.
4. A yellow info-box appears.

**Default view**

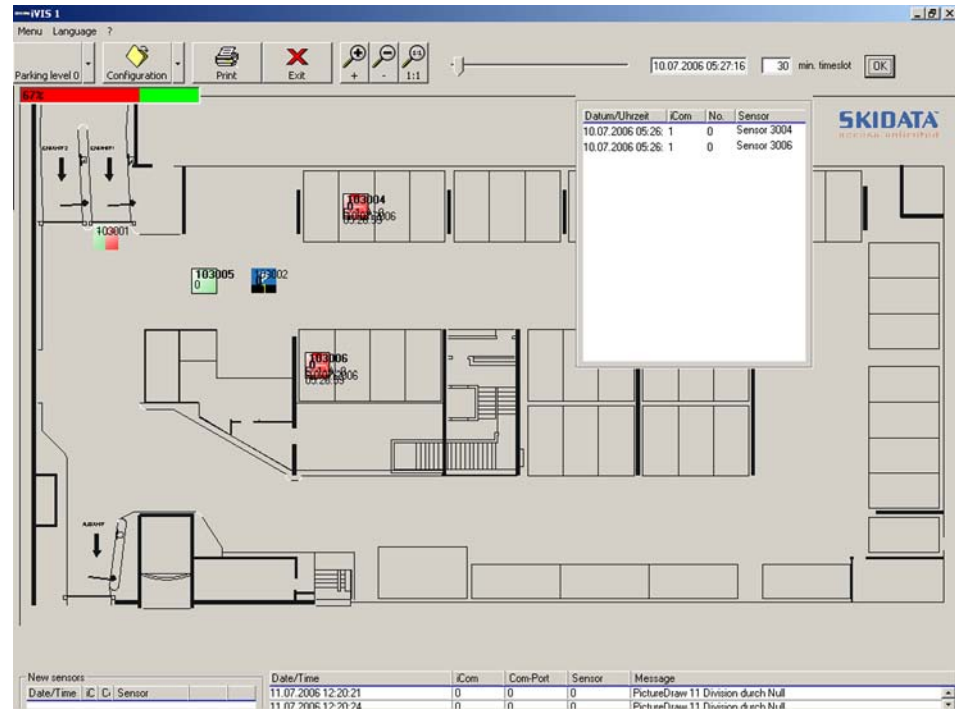
DEFAULT VIEW is preset at program start.

The Site layer shows vacant/occupied parking spaces and the occupancy rate.



## Long-term parkers

Show all parking spaces which have been occupied since the date / time you have chosen. Set a time slot for a fuzzy search.



**Fig. 16: Long-term parkers**

An example: If you enter 30 min in the timeslot field the database will look for (and display) vehicles which have been parked at the time you chose +/- 30 minutes.

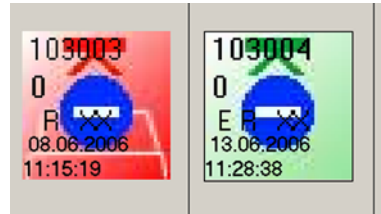
You can also set the date / time with the slider. LONG-TERM PARKERS serves for e.g. spotting vehicles which have been parking for a very long time or if the vehicle owner knows when he parked but not where.

In fig. 16 you see two sensors in the Long-term parkers box which correspond to the two red sensors in the floor plan.

You can also move the window with the sensor list to any spot of the floor plan.

## Manually reserved spaces

Only those parking spaces are displayed which have been manually switched to red.



**Fig. 17: Manually reserved spaces**

In fig. 17 the left parking space has been switched to red manually, which you can see from the blue sign. In addition it is occupied by a vehicle which you can see from its red colour.

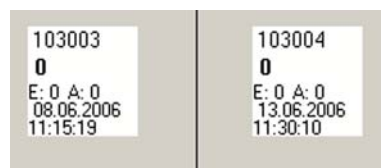
The right parking space has also been switched to red manually, which you can see from the blue sign. However, it is still vacant, which you can see from its green colour.

## Statistics view

This function enables you to get statistical information of individual sensors, areas, zones, parking levels or whole car parks.

The Site layer shows entries (E) and exits (A) when you activate the Statistics view (cf. page 30).

The single space sensors show the entries (E) and exits (A) (if you have magnified the floor plan sufficiently - cf. page 21).



**Fig. 18: Single space sensors - entries and exits**

In addition the sensor symbols show the date and time of the last entry or exit.

## Parking time diagram

Click on this diagram, hold the left mouse button and place it anywhere you like on the screen.

A diagram appears, which you can resize with the navigation buttons (cf. page 21).

The diagram shows how many vehicles have parked for how long on the respective day.

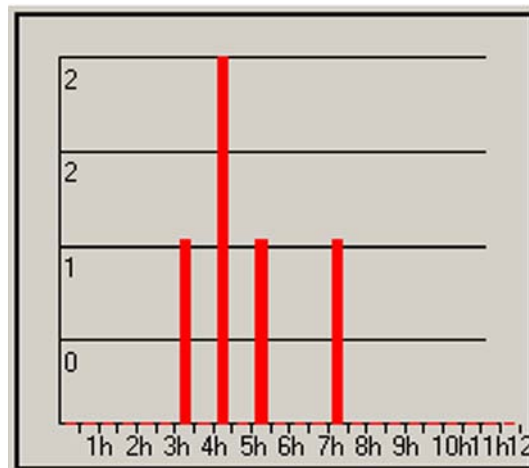


Fig. 19: Parking time diagram

In this example 1 vehicle parked for 3 hours, 2 for 2 hours, 1 for 5 hours and 1 for 7 hours.

The program STATISTICS (cf. page 40) can create and print a statistical evaluation of these data.

## Operation mode

Users only need the function DEFAULT.

With CONFIGURATION Administrators can place new sensors or other elements in the floor plan.

## Sensor

Users only need the function RESET in case a sensor does not respond. If the sensor does not respond even after several RESETS its hardware is probably defective.

Administrators can save the reference values of newly set up sensors and delete sensors.

## Car park

You can switch your car park to open or closed mode:

1. Open the menu.
2. Move the mouse pointer to CAR PARK.
3. Choose between:
  - OPEN
  - CLOSED

With CLOSED you switch on the closed operation mode of the car park. With OPEN you switch back to the normal operation mode.

According to your settings (which have been configured by the Administrator) the following steps could be carried out if you select CAR PARK > CLOSED:

- Space indicator lamps are switched off (for energy saving)
- All signs and counter displays are switched to red or occupied.
- "0 parking spaces vacant" is displayed.

## Message box

The message box can display a maximum of 200 messages.

The message box on the bottom of the screen shows Microsoft failure messages and program-related messages. The message box includes:

- Date/time
- iCOM X
- Com X
- Sensor X

Press the key DEL to delete all messages.

Date/Time	iCor	Com	Sens	Message
10.07.2006 12:32:54	1	3	0	Com Port 3 OK

**Fig. 20: Message box**



### Info

Double-click on a field of the message box to maximize or minimize it. If the legibility is not optimal you can change the column width:

1. Move the mouse pointer to the grid.
2. Click the left mouse button on a vertical grid line and move it to the left or right.

## New Sensors

This function does not concern users but only Administrators.

This box displays all sensors which have still not been placed in the floor plan. This is the case when a parking level is newly drawn in the course of the first configuration or new sensors have been added after a reconstruction of the parking level. The sensors in the list NEW SENSORS disappear from the list after they have been placed in the floor plan.



### Info

Double-click on NEW SENSORS to maximize or minimize the box.

You can also drag the box NEW SENSORS horizontally to the left or right.

## Troubleshooting

Problem	Diagnosis	Solution
The configuration differs from your changes made before a reboot.	The new configuration was not saved before a reboot.	Always save changes (cf. page 23).
The floor plan has disappeared.	Possibilities: <ul style="list-style-type: none"> <li>You have zoomed in too much.</li> <li>An empty area has been zoomed in.</li> <li>□□□□ has been selected.</li> </ul>	Solutions: <ul style="list-style-type: none"> <li>Click the 1:1-Button.</li> <li>Scroll around the floor plan.</li> <li>Switch to PARKING LEVEL</li> </ul> For more information about navigation cf. page 21.
The taskbar has disappeared.	Apparently the taskbar properties have been changed.	Drag the mouse pointer to the bottom of the screen. The taskbar appears. To fix the taskbar click the right mouse button into the grey area of the taskbar: PROPERTIES > KEEP THE TASKBAR ON TOP OF OTHER WINDOWS.
The error message “The program is already running” appears.	iVIS has been started twice.	Press OK or ENTER (cf. page 17).
The wrong parking level is displayed.	The wrong parking level has been selected.	Select the required parking level from the button PARKING LEVEL (cf. page 23).
The contents of the message box are not fully legible.	The columns are too narrow.	Change the column width (cf. page 36).
When pointing on a sensor a yellow box appears with sensor information although you do not want this.	INFO TEXT is active.	Deactivate INFO TEXT (cf. page 32).
The Sensor detail box is empty.	No sensor or other guidance component has been selected.	Select a sensor or guidance component (cf. page 26).

The Site layer window displays percentage usage although entries/exits should be displayed.	DEFAULT or MANUALLY RESERVED SPACES has been selected in the menu.	Activate STATISTICS VIEW or LONG-TERM PARKERS in the menu (cf. page 34).
The Site layer window displays entries/exits although percentage usage should be displayed.	STATISTICS VIEW or LONG-TERM PARKERS has been selected in the menu.	Activate DEFAULT or MANUALLY RESERVED in the menu (cf. page 32).
A sensor symbol is yellow.	The sensor does not respond.	RESET (cf. page 18).
Error 10054: The connection was interrupted by the remote site.	Possible causes: <ul style="list-style-type: none"> <li>• iCOM is not running</li> <li>• LAN connection failure</li> <li>• TCP/IP not installed</li> </ul>	Solutions: <ul style="list-style-type: none"> <li>• Turn on iCOM or restart iCOM.</li> <li>• Inform your network administrator.</li> </ul>
Printing failure	Probably the printer is not connected or not properly configured.	Check printer connection and configuration or set up again.

## iCOM

Version 1.1.4

04/2007



## Introduction

The program iCOM serves for the configuration and control of all connected components (sensors, single-space LEDs, multi-function modules, signs and other components).

On the user interface of iCOM you can (according to your user level - cf. page 9) e.g.:

- Select one of the configured Com-ports to display the connected components
- Place and install new sensors or other components
- Delete sensors or other components
- Change the configuration
- RESET sensors (cf. page 55)



### Attention!

The program iCOM must be running around the clock. It must not be started twice on the same computer. Otherwise the following error message appears:

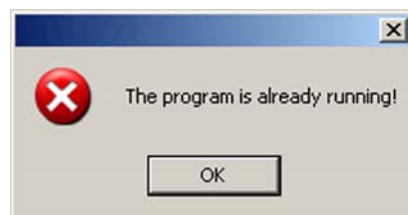


Fig. 21: Error message: iCOM started twice

Click OK or press ENTER.



### Info

If the error message appears again close the program iCOM and wait for 10 seconds. The program will be restarted automatically.



### Attention!

iCOM must be running around the clock for a constant control of the parking system.

If the iCOM-computer is not connected or switched off the sensors will work as configured (normally in automatic mode). However, there is no counting or sign management.

These operations are only possible with a connected and running iCOM-computer.

## Start and quit

After the program start those components are displayed which are connected to Com 3.

The program iCOM is preinstalled and starts automatically after the computer has booted.

After the start the sensors and cable connections are checked.

Click through all Com-ports to check the function of all sensors and components:

1. Click on the button COM 3 in the upper left part of the screen.
2. COM 4 appears with all configured sensors and components.
3. Click through all configured Com-ports and check whether all sensors and components are properly working.

A defective sensor will turn yellow. Try to reset the sensor with RESET (cf. page 55):

1. Click on the yellow sensor.
2. Click the right mouse button on the sensor window.
3. A menu appears.
4. Move the mouse pointer to SENSOR.
5. Click RESET.

## How to close the software manually

Normally, iCOM must run around the clock. If you want to close iCOM anyway, you have various possibilities:



On the menu bar



At the right upper window corner

Before iCOM is closed you will be asked whether you want to save the current configuration. If you want to keep the current configuration, click on YES. iCOM will be started next time with these settings..



### Attention!

Always save after having changed the settings. Otherwise the changes will be lost in case of a system or program reboot!

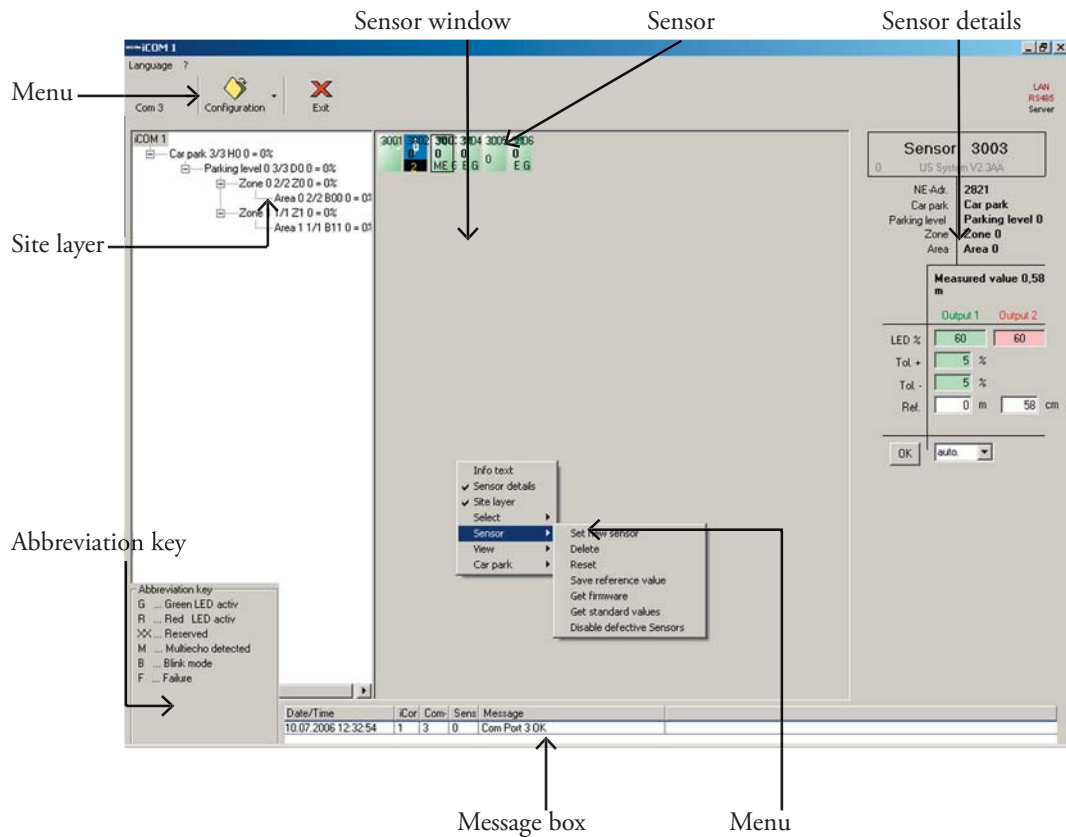
Click on: SAVE > CONFIGURATION.

## Restart

If iCOM was closed on purpose or accidentally it will be automatically restarted by the control program FIREDAEMON after 10 seconds. This guarantees that detection and sign control will be running around the clock.

## User interface

Fig. 22 gives you an overview of all fields and functions of iCOM:



**Fig. 22: iCOM everything open**

Keep this figure ready for reference purposes while you read the this chapter.

### How to use mouse and keyboard

Use the mouse to operate the software. Select the buttons of the menu bar with the left mouse button:

- LANGUAGE
- ?
- COM X
- CONFIGURATION
- CLOSE

Also the sensors and other components are selected with the left mouse button.

When you click the right mouse button in the Sensor window the Menu appears (cf. page 46).

You can also select the parameters of the Sensor details with the left mouse button and change them with the keyboard (cf. page 48).

## Buttons of the menu bar

In the following you find a description of the menu buttons of iCOM.

### LANGUAGE

Select a language.



- ADD LICENSE KEY: Enter your licence key.
- INFO: The software version is displayed.



Switch to other configured Com-Ports:

- Click on COM X to switch to the next port.
- Click on the arrow to select the required port directly.

After having switched to the required COM X the respective sensors and signs are displayed with their assigned Com number (3-16) and module number (001, 002, etc.).



### Info

Click through all Com-ports at the beginning of every session to check if all connections are OK.

At program start Com 3 is automatically displayed.

Com 1 and Com 2 are reserved for other serial devices.



Click on the small arrow down next to CONFIGURATION. A submenu appears.

- SAVE: Saves the changed settings.  
Always save after having changed the settings. Otherwise the changes will be lost in case of a system or program reboot!
- LOAD (Administrator)
- CONFIGURATION (Administrator)
- EXPORT TO COM 1 (Administrator)
- EVENT MANAGER (Administrator)



Close the program iCOM.



This display indicates the connection status between iCOM and iVIS. The connection is scanned and RS485 blinks in an interval of 2 seconds.

## Sensor window

In the sensor window all configured single space sensors, signs, display panels and other guidance components are shown.

### Sensor colours



Green Vacant



Red Occupied



Yellow Sensor does not respond.

### Sensor abbreviations

The following abbreviations describe the state of the single space sensor:

E	Echo detected
ME	Multiple echo detected
EG	Echo green
MEG	Multiple echo green
ER	Echo red
MER	Multiple echo red
B	Blink mode active
XX	Reserved
F	Failure: iCOM tries to scan the respective sensor ten times (F:1 to F:10). If the sensor still fails to respond "F:10" is displayed. Try to reset the sensor in this case or restart the iCOM program (cf. page 55). If the failure occurs again it is likely that the configuration is incorrect or the sensor is defective.

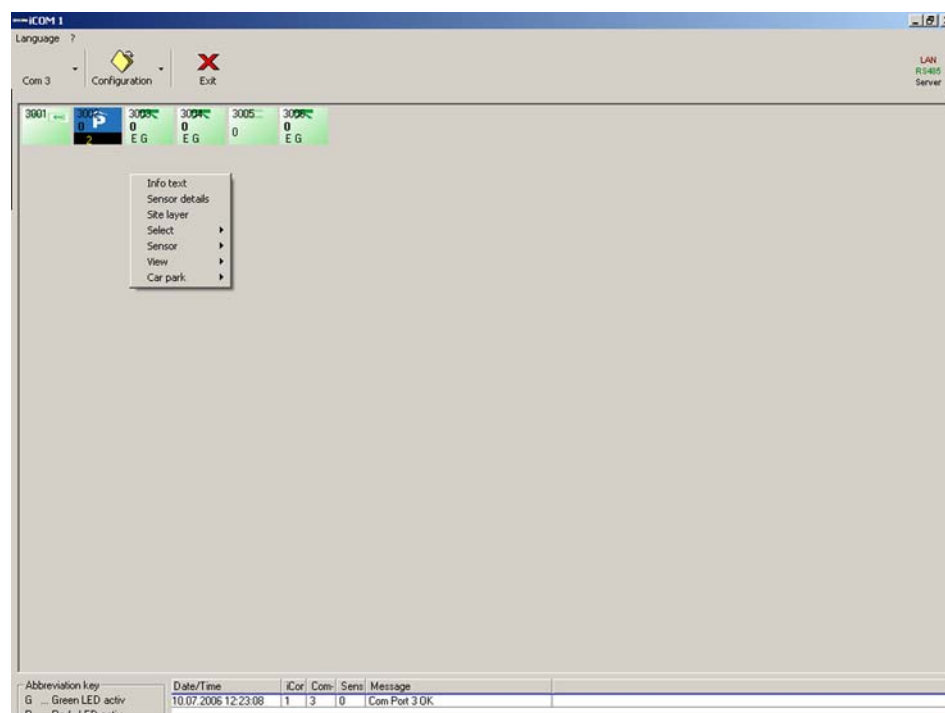


### Info

Generally the sensor symbol is green when the space indicator lamp of the respective space is green and red when the space indicator lamp is red, i.e. the feedback is real. Exception: operation mode red (cf. page 52).

## Menu

Click the right mouse button into the sensor window to open the menu.



**Fig. 23: Sensor window and menu**

Select an item with the left mouse button.

- INFO TEXT (cf. page 54)
- SENSOR DETAILS (cf. page 48)
- SITE LAYER (cf. page 46)
- SELECT (cf. page 55)
- SENSOR (cf. page 55)
- VIEW (cf. page 56)
- CAR PARK (cf. page 58)

## Site layer

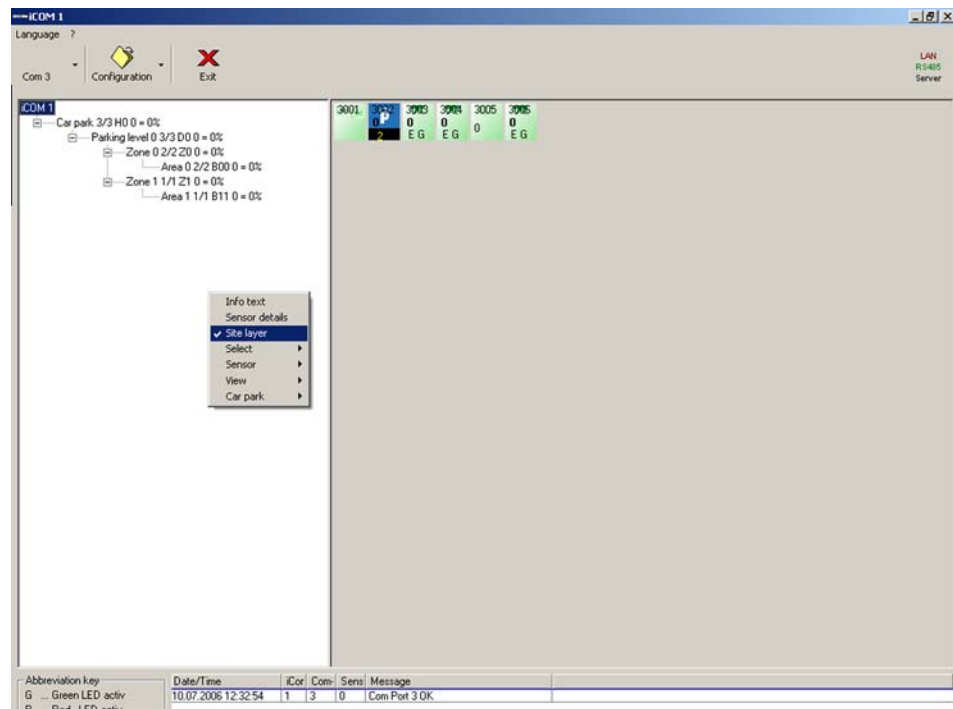
At program start the Site layer is normally not displayed.

### How to switch on the Site layer:

To switch off the Site layer proceed equally.

1. Click the right mouse button on the sensor window.
2. A menu appears.
3. Click on SITE LAYER.
4. Enter the password if it is required.

The Site layer window appears on the left side of the sensor window. It contains a schematic tree of all configured car parks/parking levels/zones/areas.



**Fig. 24: Site layer**

Click on [+] directly below “iCOM X” to open the respective sublevel.

Click on [-] to close the respective sublevel.

Double-click on the respective car park, parking level or zone to select the allocated spaces. They are marked by black frames.

When the sensor details are active you can:

- Switch all marked spaces to red, green or automatic.
- Manage and change the settings of the LEDs or other parameters of all marked spaces

Areas with loop detection

When you double-click on a zone with loop detection (indicated by a “D” next to the abbreviation) a window pops up which asks for the “Number of occupied spaces”. Since a loop detection can be inaccurate, e.g. when two

vehicles pass the loop detection one closely behind the other, you can correct the value manually. Moreover, an automatic adaptation is carried out at 00:00 o'clock (set by the Administrator).

2 different views

Users can switch between two views:

1. Click the right mouse button on the sensor window.
2. Move the mouse pointer to VIEW.
3. Select among
  - VIEW > DEFAULT
  - VIEW > STATISTICS

View > Default

With VIEW > DEFAULT the Site layer shows the following information:

type – vacant spaces / available spaces – abbreviation = % usage

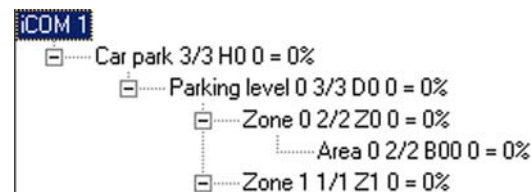


Fig. 25: Site layer: View > Default

View > Statistics

With VIEW > STATISTICS the Site layer shows the following information:

type – entries (E)– exits (A):

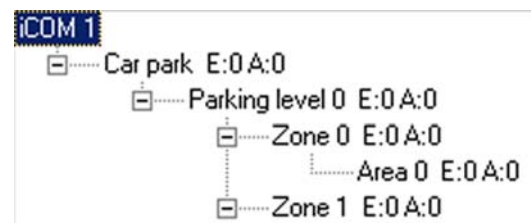


Fig. 26: Site layer: View > Statistics



### Info

VIEW > CONFIGURATION is reserved for Administrators.

## Sensor details

At program start the sensor details are normally not displayed.

How to switch on the Sensor details:

To switch off the Sensor details proceed equally.

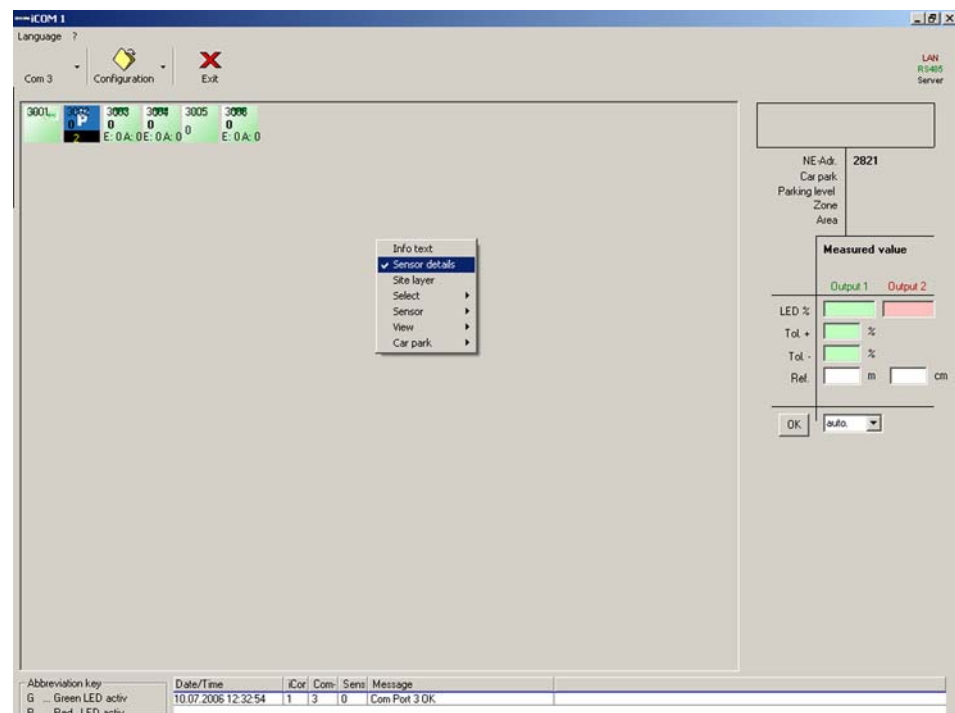
1. Click the right mouse button on the sensor window.
2. A menu appears.



3. Click on SENSOR DETAILS.
4. Enter the password if it is required.

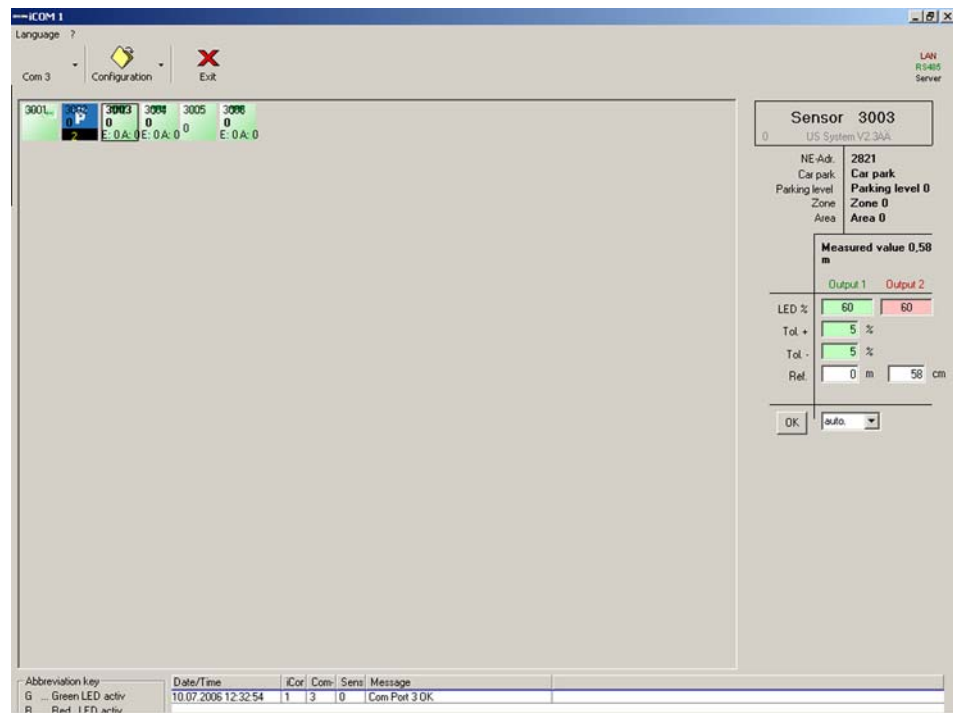
The Sensor details window appears on the right side of the sensor window. It shows the details of the selected sensors or other components.

In fig. 27 the Sensor details are still empty since no definite sensor has been selected. This is also why none of the sensor symbols is marked by a black frame.



**Fig. 27: Sensor details empty**

Select a sensor and click on it. The sensor details are filled with data.



**Fig. 28: Sensor details filled with data**

In fig. 28 sensor 3003 has been selected (3 stands for COM 3 and 003 for the module number). The selected sensor is now marked by a black frame.

How to select several sensors

Hold the SHIFT key and select several parking sensors by clicking on them. When the sensor details are active the selected sensors just show the information they have in common. Now you can change the parameters for all selected sensors at once.

In the following the different Sensor details are explained via two examples (single space sensor and counter display).

### Single space sensor

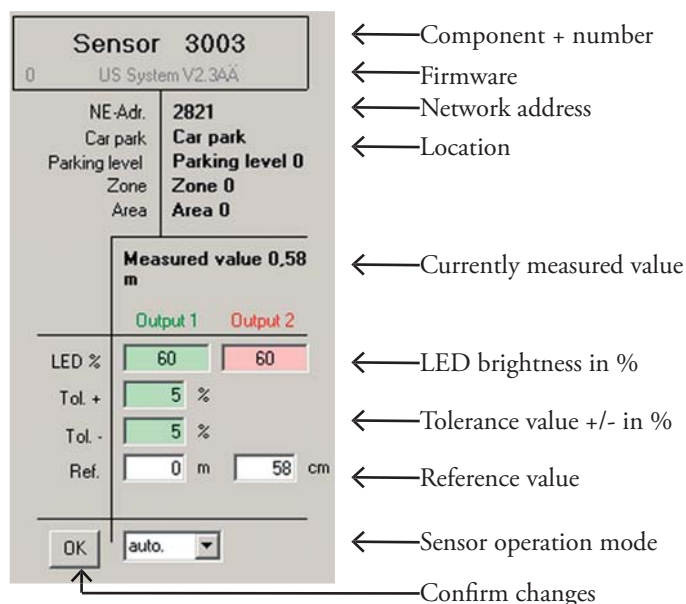


Fig. 29: Sensor details of a single space sensor

Sensor number	It consists of the COM-port number + module number of the sensor
Firmware	Firmware of the sensor
Location	The whereabouts of the sensor (car park, parking level, zone, area)
MEASURED VALUE	Currently measured value from the ultrasound sensor downwards.
LED %	Adjust the brightness of the space indicator LED between 0-100 % (corresponding to 0-20 mA).

TOL. +/-

Tolerance value: Percentage value indicating when the LED switches to red if a value is measured above/below the reference value.

**Example:**

The reference value of a vacant single space is 2.50 m. The sensor switches to red at a tolerance value of +/- 5% at 2.123 or 2.525 m, respectively.

For a detailed description of how the ultrasound sensors work cf. page 13.

REF.

Saved reference value of a vacant single space, that is, the distance between the ultrasound sensor and the floor.

Operation mode:

AUTO.	Automatic detection. When the parking space is occupied the space indicator lamp switches to red, when it is vacant, it switches to green.
RED	Red serves for the closing or reservation of parking areas. The space indicator lamp is manually switched to red, the statistics still regard the parking space as a vacant one. Its symbol stays green on the iCOM sensor window and only shows an additional icon (cf. page 34). If a vehicle enters the respective parking space the symbol on the iCOM sensor window switches to red. Thus all parking activities are registered in the statistics.
GREEN	The sensor is manually switched to a permanent green.
LONG-TERM PARKERS	With this option the space indicator lamps of the respective parking spaces start to blink after a certain occupied time which has been set by the Administrator. Long-term parkers are thus identified more easily.



### Info

For a smooth operation we recommend to keep the automatic operation mode and only switch closed or restricted areas to red.

Always click OK after having changed settings.

The new settings are put into practice after a few seconds.

### Counter display

Counter displays (and other guidance components such as disabled parking spaces) show the following sensor details:

The screenshot shows the configuration screen for 'Counter 103002'. The screen is divided into several sections with labels and arrows pointing to specific fields:

- Component + number:** Points to 'Counter 103002'.
- Firmware:** Points to 'Displaymodul V1.04®'.
- Network address:** Points to 'NE-Adr: 95013'.
- Location:** Points to 'Car park', 'Parking level', 'Zone', and 'Area'.
- LED brightness of display panel:** Points to 'Output 1' and 'Output 2' LED % values (both set to 100).
- LED brightness of number counter:** Points to 'Output 1' and 'Output 2' Number values (both set to 16).
- Operation mode:** Points to the 'auto.' dropdown menus for both outputs.
- Text when occupied:** Points to the 'Occupied text' dropdown menu.
- Steps for counting:** Points to the 'Sensitivity' input field (set to 20).
- Exact counting from (no sensitivity):** Points to the 'Exact value from' input field (set to 20).
- Display 0 vacant spaces at:** Points to the 'Zero value from' input field (set to 0).
- Confirm changes:** Points to the 'OK' button at the bottom.

Fig. 30: Sensor details of a counter display

LED %	Adjust the brightness of the display between 0-100 % (corresponding to 0-20 mA).
NUMBER	Adjust the brightness of the number counter between 0-100 % (corresponding to 0-20 mA). Number counters are mostly connected to display panels.
Operation mode	<ul style="list-style-type: none"> <li>AUTO: Automatic detection. The display displays the data according to the input from the interfaces.</li> <li>ON: The display is switched on.</li> <li>OFF: The display is switched off (e.g. for energy saving purposes).</li> </ul>

OCCUPIED TEXT	This text is shown as soon as the allocated area is occupied.
SENSITIVITY	Set the counting steps of the counter display; <b>Example:</b> When you set “10” the counter display counts entering/leaving vehicles in steps of 10.
EXACT VALUE FROM	The value from which on the counter display counts in steps of 1, that is, the sensitivity is switched off.
ZERO VALUE FROM	The number of still vacant parking spaces at which the display switches to occupied.

## Info text

When you activate INFO TEXT a yellow information box appears as soon as you move the mouse pointer onto a sensor symbol. Example: sensor 3004.

How to activate INFO TEXT:

To switch off INFO TEXT proceed equally.

1. Click the right mouse button on the sensor window.
2. A menu appears.
3. Click INFO TEXT.

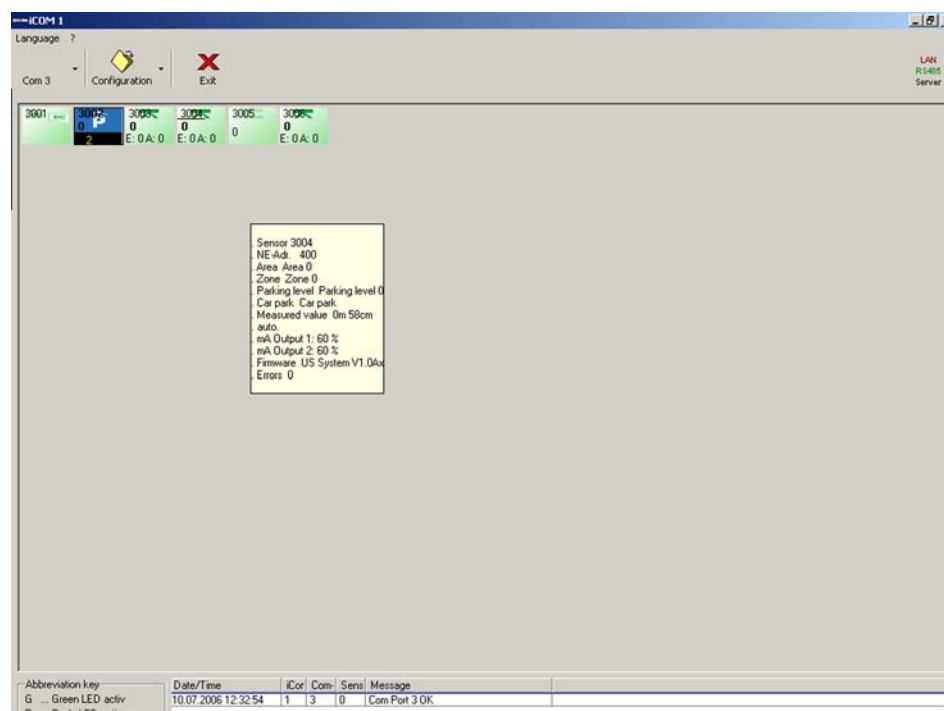


Fig. 31: Info text

Furthermore you see the possible sensor positions for the placement of a new sensor (Administrator).

## Select

How to work with SELECT:

1. Click the right mouse button on the sensor window.
2. A menu appears.
3. Move the mouse pointer to SELECT.
4. Select between
  - ALL SENSORS
  - NOTHING

With SELECT > ALL SENSORS you select all single space sensors of the active Com-Port.

With SELECT > NOTHING you deactivate the selection.

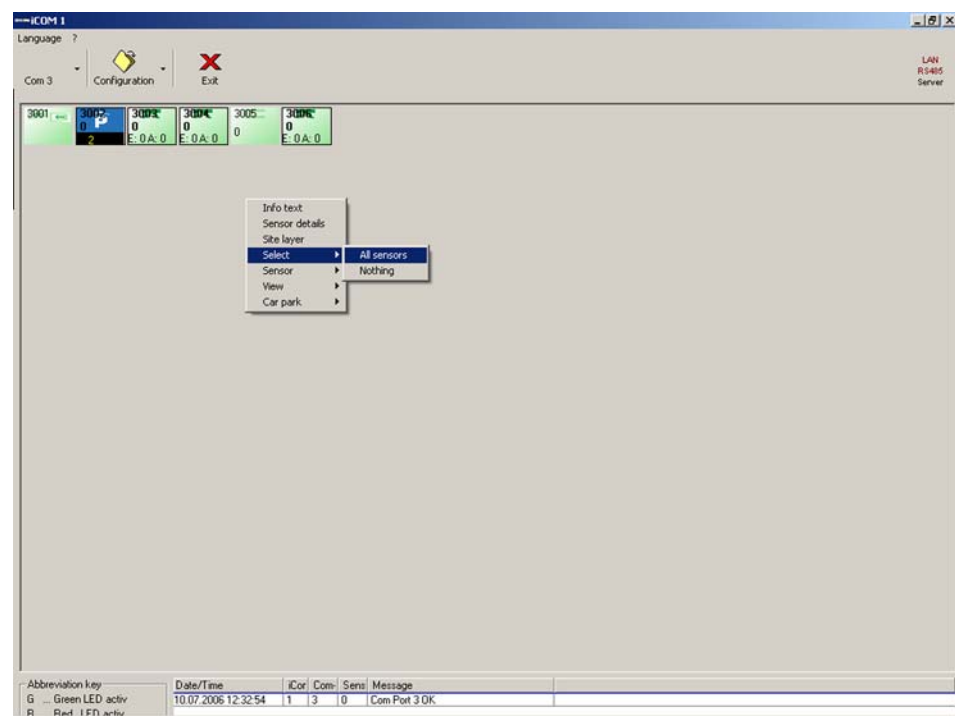


Fig. 32: Select all sensors



### Attention!

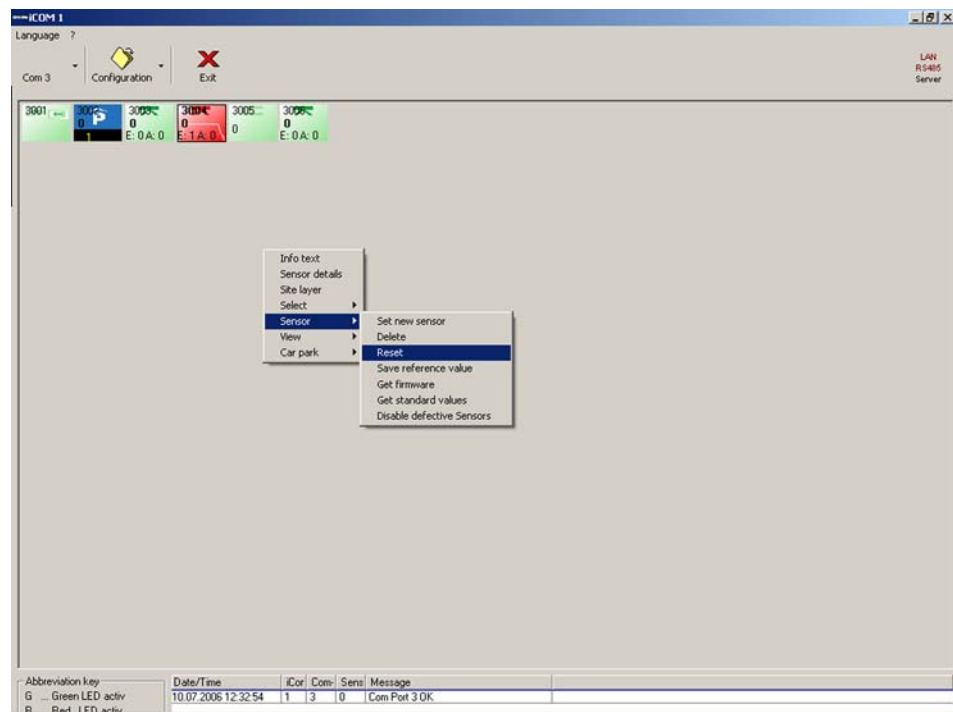
Only the single space sensors are selected and marked! Displays, signs, etc. remain unselected when you activate SELECT > ALL SENSORS.

## Sensor

How to work with the Sensor submenu:

1. Click the right mouse button on the sensor window.
2. A menu appears.
3. Move the mouse pointer to SENSOR.
4. Choose among the following options:
  - SET NEW SENSOR (Administrator)
  - DELETE (Administrator)
  - RESET
  - SAVE REFERENCE VALUE (Administrator)
  - GET FIRMWARE (Administrator)
  - GET STANDARD VALUES (Administrator)
  - DISABLE DEFECTIVE SENSORS (Administrator)

With RESET you reset the settings of a selected sensor if it fails to respond.



**Fig. 33: Sensor menu**



### Info

Always save after having changed the settings. Otherwise the changes will be lost in case of a system or program reboot!  
Click on: SAVE > CONFIGURATION.

### View

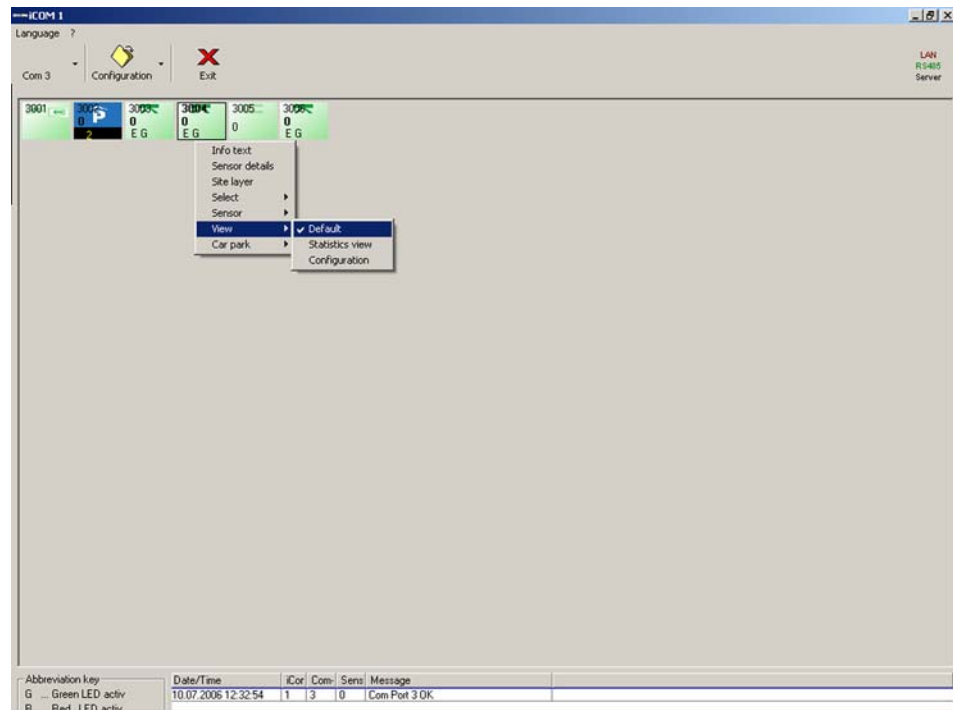
In iCOM you can choose between different views. According to the selected view you see different data in the sensor window and the site layer (cf. page 46).



How to choose between different views:

1. Click the right mouse button on the sensor window.
2. A menu appears.
3. Move the mouse pointer to VIEW.
4. Choose among the following options:
  - DEFAULT
  - STATISTICS VIEW
  - CONFIGURATION (Administrator)

With VIEW > DEFAULT you see the basic information of the sensors in the sensor window. For details on the different abbreviations of the sensor symbols cf. page 45.



**Fig. 34: View > Default**

With VIEW > STATISTICS VIEW you see the entries and exits of the respective sensors.

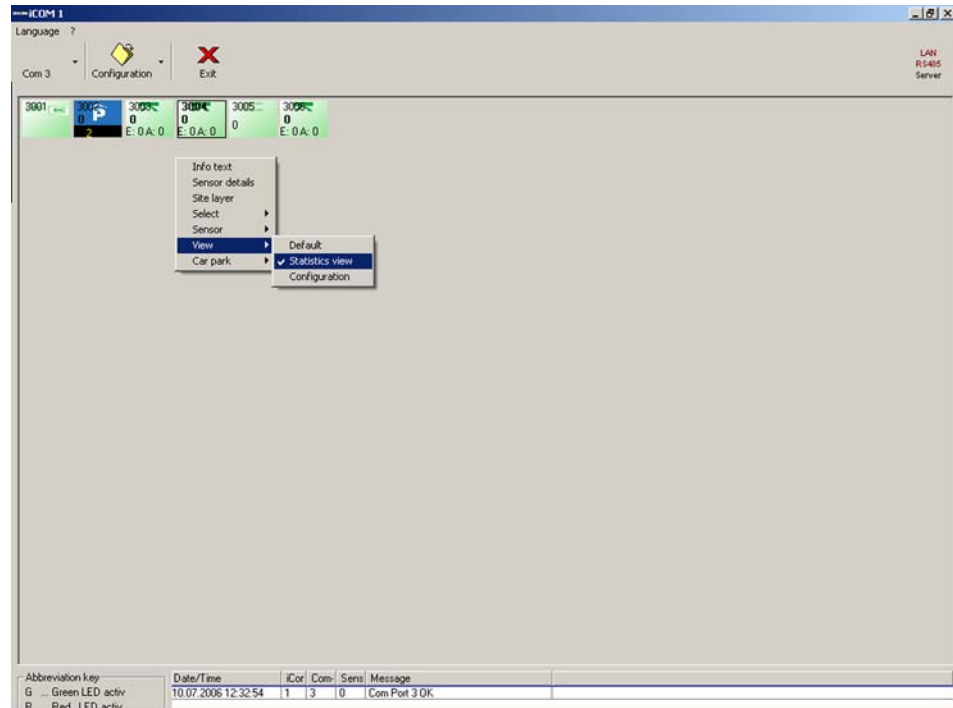


Fig. 35: View > Statistics view

## Car park

In iCOM you can switch your car park to open or closed mode.

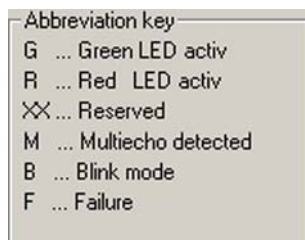
1. Click the right mouse button on the sensor window.
2. A menu appears.
3. Move the mouse pointer to CAR PARK.
4. Choose between:
  - OPEN
  - CLOSED

With CLOSED you switch on the closed operation mode of the car park. With OPEN you switch back to the normal operation mode.

According to your settings (which have been configured by the Administrator) the following steps could be carried out if you select CAR PARK > CLOSED:

- Space indicator lamps are switched off (for energy saving)
- All signs and counter displays are switched to red or occupied.
- “0 parking spaces vacant” is displayed.

## Abbreviation key



**Fig. 36: Abbreviation key**

Double-click on the abbreviation key window to maximize it.

Double-click again to minimize it.

(Fig.: Abbreviation key maximized)

## Message box

The message box can display a maximum of 200 messages.

The message box at the bottom of the screen shows Microsoft error messages and program-related messages with the following information:

- Date/time
- iCOM X
- Com X
- Sensor X

Press the key DEL to delete all messages.

Date/Time	iCor	Com	Sens	Message
10.07.2006 12:32:54	1	3	0	Com Port 3 OK

**Fig. 37: Message box**



### Info

Double-click on a field of the message box to maximize or minimize it.

If the legibility is not optimal you can change the column width:

1. Move the mouse pointer to the grid.
2. Click the left mouse button on a vertical grid line and move it to the left or right.

## Troubleshooting

Problem	Diagnosis	Solution
The configuration differs from your changes made before a reboot.	The new configuration was not saved before the reboot.	Always save changes (cf. page 44).
The program iCOM has disappeared.	After a certain time the iCOM program window is minimized. Still, the program keeps running in the background!	Maximize iCOM from the taskbar when needed. The program window pops up again (cf. page 42).
The taskbar has disappeared.	Apparently the taskbar properties have been changed.	Drag the mouse pointer to the bottom of the screen. The taskbar appears. To fix the taskbar click the right mouse button into the grey area of the taskbar: PROPERTIES > KEEP THE TASKBAR ON TOP OF OTHER WINDOWS.
The error message "The program is already running" appears.	iCOM has been started twice.	Press OK or ENTER. If the problem persists cf. page 41.
The sensor window does not display any sensors.	Probably a not configured Com-port has been selected.	Select the required COM port on the menu bar from COM X (cf. page 45).
The abbreviation key is not fully legible.	The abbreviation key is minimized.	Double-click the abbreviation key (cf. page 59).
The contents of the message box are not fully legible.	The columns are too narrow.	Change the column width (cf. page 59).
When pointing on a sensor a yellow box appears with sensor information although you do not want this.	INFO TEXT is active.	Deactivate INFO TEXT (cf. page 54).
The sensor detail box is empty.	No sensor or other guidance component has been selected.	Select a sensor or guidance component (cf. page 48).
The Site layer and the sensor symbols show the percentage usage although entries/exits are required.	VIEW > DEFAULT has been selected.	Activate the option VIEW > STATISTICS VIEW (cf. page 56).

The Site layer and the sensor symbols show entries/exits although the percentage usage is required.	VIEW > STATISTICS VIEW has been selected.	Activate the option VIEW > DEFAULT (cf. page 56).
All single spaces have been selected.	SELECT ALL SENSORS has been activated.	Activate the option SELECT > NOTHING (cf. page 55).
A sensor symbol is yellow.	The sensor does not respond.	RESET (cf. page 55).

## Statistics

Required software: Microsoft Access; at least version 2000

06/2006

## Introduction

The STATISTICS program is based on Microsoft Access and uses the database of the **iVIS computer**.

With the STATISTICS program you can carry out statistical analyses of your car parks. You can define the analysis period (date/time) and the analysis range (car parks, parking levels, zones, areas).

The STATISTICS program provides data on the number of occupied spaces per hour, the entries and exits and the occupancy rate. Print or export the results for further use. Furthermore, you can create a list of all sensors and bus components.

## Start and quit

The program STATISTICS is preinstalled. Start it from the desktop when you need it.

### Start



Double-click the symbol on the Desktop.



#### Info

You can start the program STATISTICS alternatively from the path  
C:\Programs\Server\data.mdb.

## How to close the software manually

You have various possibilities:

FILE > CLOSE

In the Access menu.



At the right upper window corner.



At the left upper window corner:

- Double-click the left mouse button.
- Click left or right mouse button > CLOSE (cf. page 8).



Click with the left mouse button.

## User interface

Use the tabs STATISTICS NEW, STATISTICS and MASTER DATA to switch between these three interfaces.

When you start the Statistics program Microsoft Access is launched displaying the window NEW STATISTICS.

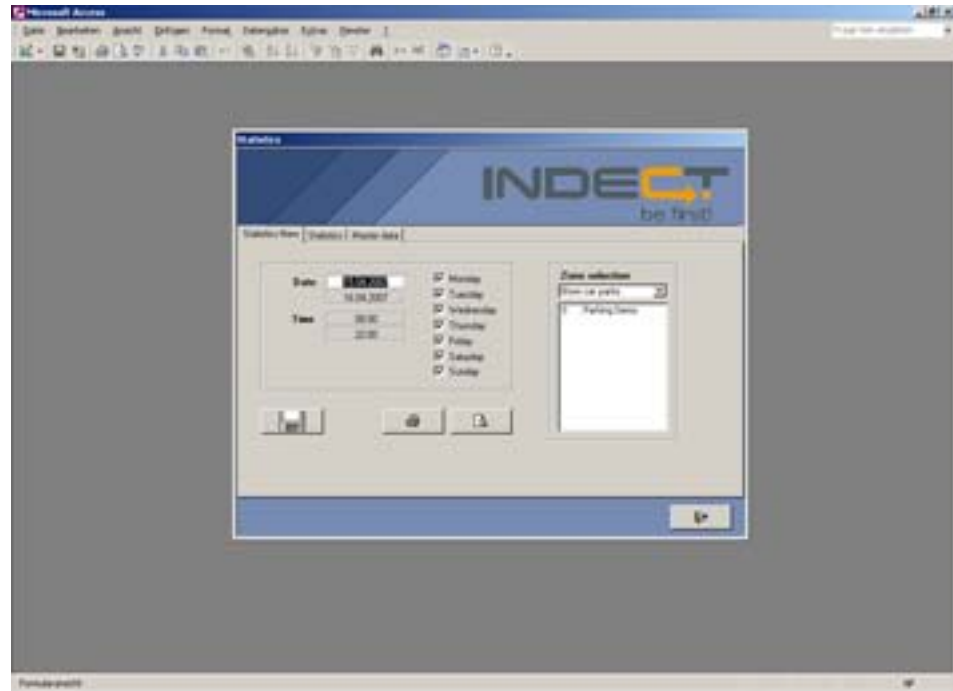


Fig. 38: Statistics start view

Click on the tabs STATISTICS or MASTER DATA to switch to the respective view.



### Info

In the MASTER DATA you can change the car park-specific data and the language of the user interface (only of the STATISTICS programme, NOT of Microsoft Access!).

In the following, the 3 user interfaces are described:



## Statistics New

The screenshot shows the 'Statistics New' window of the INDECT software. The window has a blue header with the INDECT logo and the slogan 'be first!'. Below the header is a tabbed interface with three tabs: 'Statistics New', 'Statistics', and 'Master data'. The 'Statistics New' tab is selected, displaying a form for configuring statistical reports. The form includes a 'Date' field with a calendar icon, showing '15.04.2007', and a 'Time' field with two input boxes showing '08:00' and '22:00'. To the right of the time fields is a list of days of the week (Monday through Sunday) with checkboxes, all of which are checked. Further right is a 'Zone selection' dropdown menu showing '0: Parking Demo'. At the bottom of the window, there are three buttons: a floppy disk icon, a printer icon, and a magnifying glass icon. A small button with a plus sign is located in the bottom right corner.

**Fig. 39: Statistics New**

Create statistical reports on the data of your car park. You can enter the following parameters:

- Date
- Time
- Day of the week
- Car park section

How to set the parameters:

1. Click on the first number in the field next to DATE
2. Overwrite the current date with the desired start date of the period to be analysed
3. Click into the field below or press the TAB-Button
4. Enter the end date of the period to be analysed
5. Enter start and end time
6. Select the desired days of the week to be included in the statistical analysis

7. Select the desired car parks, parking levels, zones or areas in the ZONE SELECTION



You must select at least one car park, parking level, zone or area. Hold the CTRL-Key to select more than one item.

8. Click on .
9. The report pops up as a new window.

You can print the report as a PDF-file: Click FILE > PRINT in the ACCESS menu. You must have installed FreePDF or any other PDF printer.

If you click the FLOPPY-symbol the report is saved as an Excel file at the location: C:\Program Files\iVIS. If you do not rename the file it will be overwritten when you create the next report.

## Statistics

### Overview

In this window you have various possibilities for statistical analyses of your car park data (cf. page 68; fig. 40 for a screenshot):

1. Statistics summation of all entries and exits according to car park, parking level and zone of the selected time period
2. Interval statistics according to time/date, vacant/occupied parking spaces, entries and exits of car parks and parking levels



#### **Attention!**

The analysis is calculated from start date and time until end time and date; for a 24-hours analysis right from the beginning set the start time to 00:00 and the end time to 00:05

Click the DIAGRAM-Button to create diagrams and reports:

1. Parking duration: a report on the average parking time per day of the selected period (only the date is relevant)
2. Parking duration diagram
3. Entries and exits of the selected day (date and time relevant) or average of the selected time period (only date relevant)
4. Occupancy in percent of the selected day (date and time relevant) or average of the selected time period (only date relevant)

Furthermore, you can create tables on several data, which you can copy into Excel-sheet for further usage:

1. Car park occupancy report
2. Car park entries report
3. Car park exits report
4. Level occupancy report
5. Level entries report
6. Level exits report

In the SENSOR LIST you can create a list of all bus components.

## Statistics Summation and Interval Statistics

The highlighted part is relevant for the setting of the details for the analysis:



Fig. 40: Parameters for the statistical analysis

Set date and time of the statistical analysis:

1. Place the cursor in the field on the right hand side of DATE. Click the left mouse button.
2. Enter the start date.
3. Enter the end date one field below.
4. Continue alike with start and end time.



### Info

The standard interval between the scans is 30 minutes and can only be changed by the Administrator.

On the right hand you can specify the details of the statistical analysis:

- Show car parks
- Show levels
- Show zones
- Show areas
- Show headers / totals

The data of the selected sections are taken up into the statistical analysis.

### Print report immediately



Click on the button PRINT to print the report immediately. A printer must be connected and properly installed.

### Show report



With this button (on the right hand side of the button PRINT) the statistical analysis is computed and the report is shown. The report is opened as a small pop-up window in the left part of the screen.

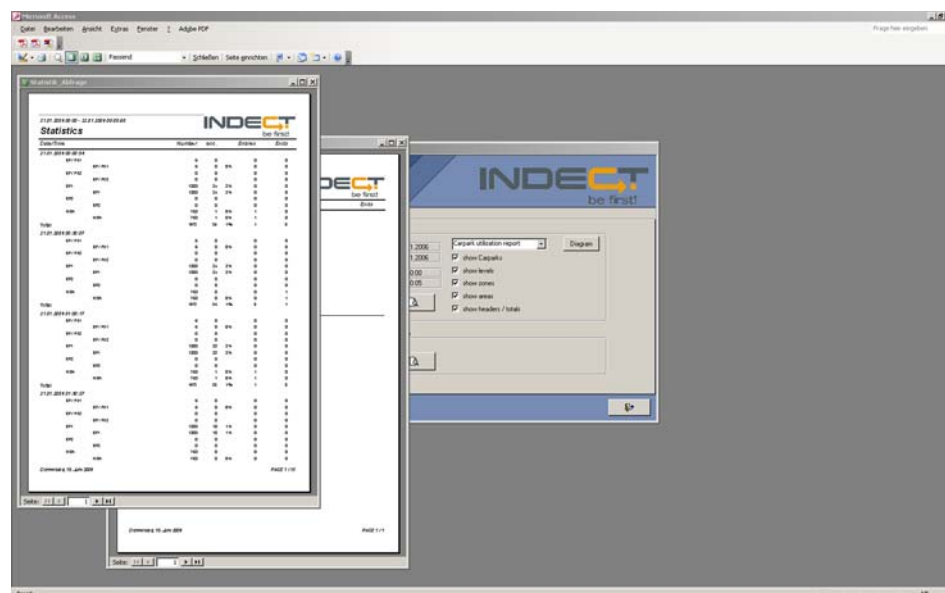


Fig. 41: Show report

To increase readability magnify the window with .



### Info

After the report has popped up the mouse pointer becomes a magnifier lens. Zoom in with the magnifier lens.

In the left bottom corner you can turn the pages.

### Report data

The report STATISTICS - SUMMATION contains all entries and exits of the individual car parks, parking levels and zones (according to the details you have ticked off before).

Fig. 42 shows an example of a STATISTICS report:

Statistik\_Abfrage

21.01.2008 00:00 - 22.01.2008 00:05:00

**Statistics** **INDECT** be first!

Date/Time		Number	occ.	Entries	Exits
21.01.2008 00:00:58					
EP / P01		6	0	0	0
	EP / P01	6	0	0%	0
EP / P02		0	0	0	0
	EP / P02	0	0	0	0
EP1		1200	24	2%	0
	EP1	1200	24	2%	0
EP2		0	0	0	0
	EP2	0	0	0	0
IKBA		763	1	0%	1
	IKBA	763	1	0%	1
Total		1872	26	1%	1
21.01.2008 00:30:07					
EP / P01		6	0	0	0
	EP / P01	6	0	0%	0
EP / P02		0	0	0	0
	EP / P02	0	0	0	0
EP1		1200	24	2%	0
	EP1	1200	24	2%	0
EP2		0	0	0	0
	EP2	0	0	0	0
IKBA		763	0	0	1
	IKBA	763	0	0%	1
Total		1872	24	1%	1
21.01.2008 01:00:17					
EP / P01		6	0	0	0
	EP / P01	6	0	0%	0
EP / P02		0	0	0	0
	EP / P02	0	0	0	0
EP1		1200	22	2%	0
	EP1	1200	22	2%	0
EP2		0	0	0	0
	EP2	0	0	0	0
IKBA		763	1	0%	1
	IKBA	763	1	0%	1
Total		1872	23	1%	1
21.01.2008 01:30:27					
EP / P01		6	0	0	0
	EP / P01	6	0	0%	0
EP / P02		0	0	0	0
	EP / P02	0	0	0	0
EP1		1200	18	1%	0
	EP1	1200	18	1%	0
EP2		0	0	0	0
	EP2	0	0	0	0
IKBA		763	0	0%	0
	IKBA	763	0	0%	0
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Seite: 1

Fig. 42: Example report Statistics

The report STATISTICS contains:

- Date/time of the scans
- Number Total number and number of available parking spaces in this area at this time.

- Occupied Number of parking spaces occupied in this area at this time.
- Entries of the area at this time
- Exits of the area at this time

## Print report

If a printer is connected and properly installed you can print the report.

Click on FILE > PRINT.

## Export report

Select FILE > EXPORT in the Access menu to export the report e.g. as an Excel-file for further usage.

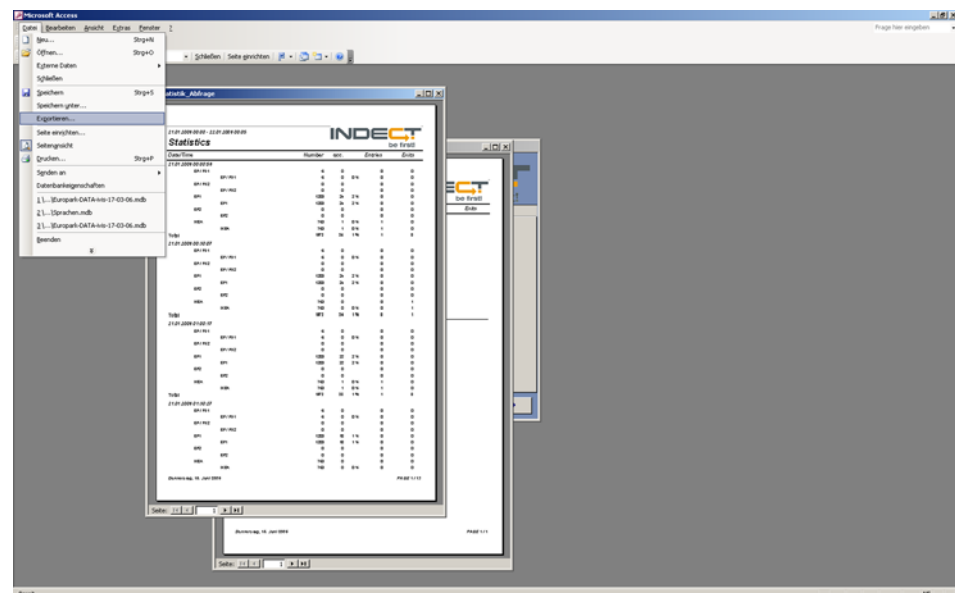


Fig. 43: Export report step 1

A window appears where you can select the file format and where you want to save the file.

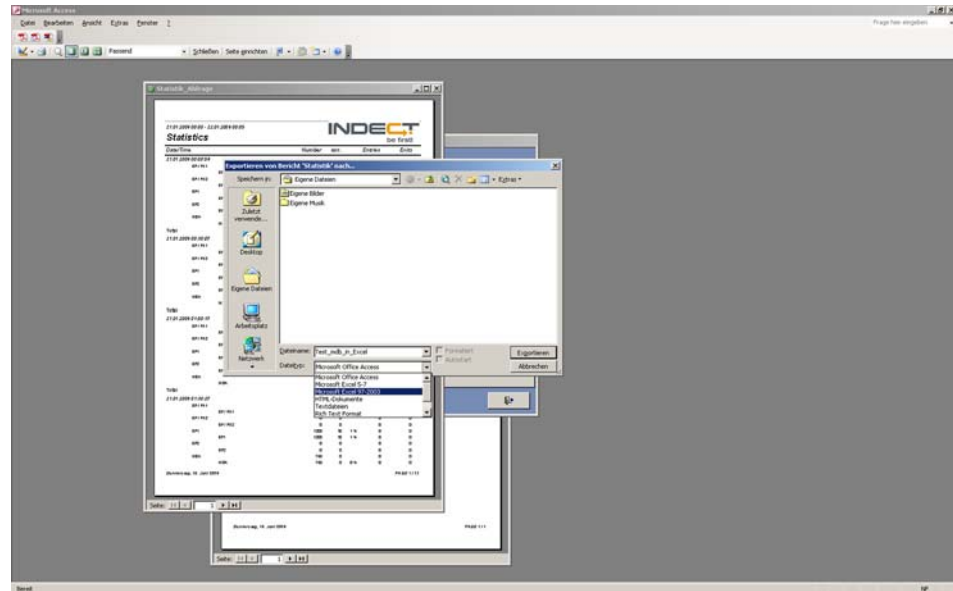


Fig. 44: Export report step 2

## Diagram

In the following the different diagrams are explained with examples.

### Parking duration report

A report on the average parking time per day of the selected period (only the date is relevant)

The parking duration report is the first window to appear. In fact, it is not a diagram but a report.

15.01.2007 00:00 - 19.02.2007 00:05

**Parkingduration**

**INDECT**  
be first!

Date	Average parkingduration
15.01.2007 23:5	4,49 h
16.01.2007 23:5	4,43 h
17.01.2007 23:5	4,6 h
18.01.2007 23:5	4,51 h
19.01.2007 23:5	4,57 h
20.01.2007 23:5	2,41 h

Fig. 45: Parking duration report



### Parking duration diagram

The parking duration diagram gives you an overview of how many cars have parked how many hours in your car park.

### Entries and Exits

of the selected day (date and time relevant) or average of the selected time period (only date relevant)

You can read your clients' parking behaviour from this diagram. You have two possibilities to perform a query:

- Analysis of a day: set date and time (e.g. 08:00 - 16:00)
- Analysis of several days: set date. Time is irrelevant, since the data are automatically taken from 00:00 to 24:00

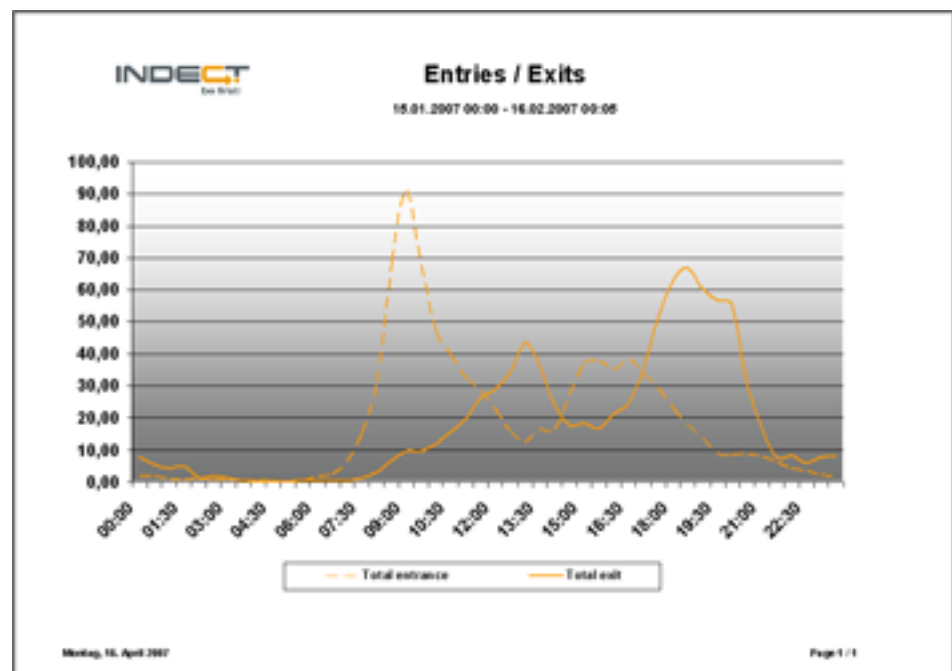


Fig. 46: Example diagram: Entries and exits

### Occupancy in percent

of the selected day (date and time relevant) or average of the selected time period (only date relevant)

This diagram shows the occupancy of your car park. You have two possibilities to perform a query:

- Analysis of a day: set date and time (e.g. 08:00 - 16:00)

- Analysis of several days: set date. Time is irrelevant, since the data are automatically taken from 00:00 to 24:00

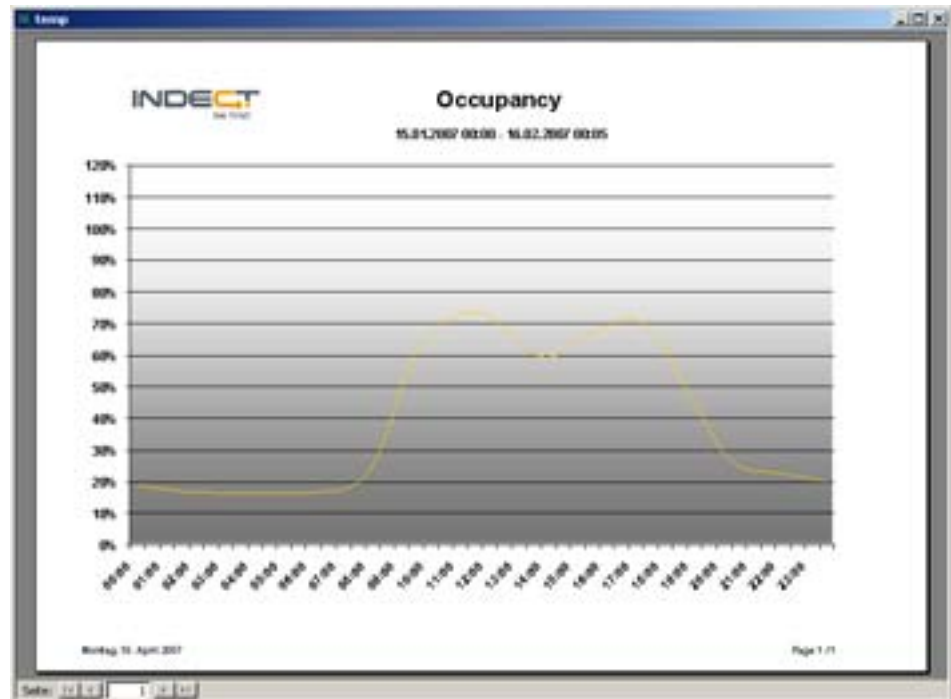
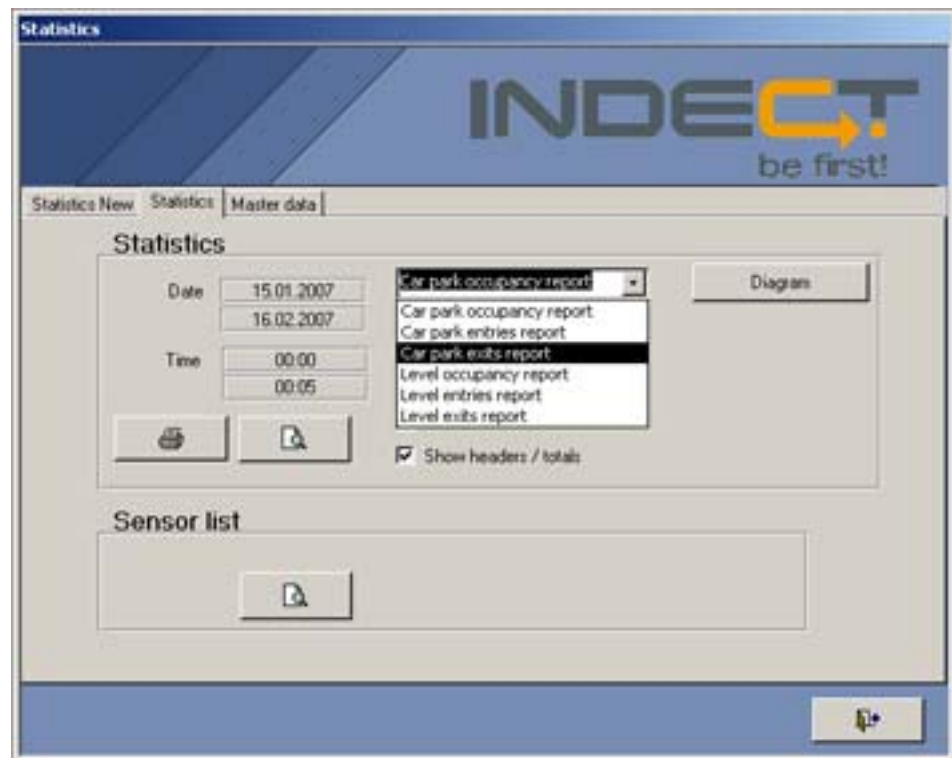


Fig. 47: Example diagram: occupancy

### Occupancy, Entries and Exits

1. Set required start and end date and start and end time.
2. Click the arrow down in the selection menu which shows CAR PARK OCCUPANCY REPORT.

3. Select the desired option



**Fig. 48: Selection: Export Occupancy, Entries or Exits**

4. 2 tables appear:

- The first table always shows the number of clients parking at a certain time. The interval of the queries is set to 30 minutes.
- The second table shows the data according to your selection, e.g. for Level exits report of a car park with 4 parking levels:

Datum	Level 1	Level 2	Level 3	Level 4
12.02.2007 09:30:47	0	1	0	0
12.02.2007 10:00:47	0	0	0	0
12.02.2007 10:30:47	1	5	15	3
12.02.2007 11:00:56	0	2	4	2
12.02.2007 11:30:58	5	2	3	16
12.02.2007 12:00:58	1	4	13	14
12.02.2007 12:30:58	5	9	10	18
12.02.2007 13:00:59	10	8	12	13
12.02.2007 13:30:59	8	15	12	13
12.02.2007 14:00:59	9	9	6	5
12.02.2007 14:30:59	3	5	7	3
12.02.2007 15:00:00	3	8	11	5
12.02.2007 15:30:00	4	4	6	7
12.02.2007 16:00:56	3	4	3	1

**Fig. 49: Levels exits report**

You can export these data for individual analyses to Microsoft Excel (not preinstalled) or to other applications with COPY and PASTE:

1. Select the cells you want to export on the row or column heading.
2. Click on the selected black part with the right mouse button.
3. COPY
4. Click the right mouse button in Excel (or any other application) and select PASTE at the required spot.



### Info

In case you cannot maximize/close the export window because the right upper part is not within the screen limits click the blue title bar of the window, hold the left mouse button and drag the window to the left until the right margin of the window appears.

## Sensor list

Select SENSOR LIST from the tab STATISTICS.

A window with the sensor configuration list appears.

**Sensor configuration**

Com-Port 3

No.	ID	Netzwerkadresse	Type	Digits Fixed to	occ.	Area	Zone	Level	Carpark	Connection
100001	1	10747	Sensor 2001	1	0	B73/EP2	Z-46/EP2	EP2		
100002	2	9481	Sensor 2002	1	0	B73/EP2	Z-46/EP2	EP2		
100003	3	10746	Sensor 2003	1	0	B73/EP2	Z-46/EP2	EP2		
100004	4	10113	Sensor 2004	1	0	B73/EP2	Z-46/EP2	EP2		
100005	5	10759	Sensor 2005	1	0	B73/EP2	Z-46/EP2	EP2		
100006	6	015100090	Schalt 2006	6	0			EP2		
100007	7	015100098	Schalt 2007	6	0			EP2		
100008	8	0714	Sensor 2008	1	0	B71/EP2	Z-44/EP2	EP2		
100009	9	0705	Sensor 2009	1	0	B71/EP2	Z-44/EP2	EP2		
100010	10	10712	Sensor 2010	1	0	B71/EP2	Z-44/EP2	EP2		
100011	11	10706	Sensor 2011	1	0	B71/EP2	Z-44/EP2	EP2		
100012	12	0703	Sensor 2012	1	0	B71/EP2	Z-44/EP2	EP2		
100013	13	10716	Sensor 2013	1	0	B71/EP2	Z-44/EP2	EP2		
100014	14	11807	Sensor 2014	1	0	B71/EP2	Z-44/EP2	EP2		
100015	15	10709	Sensor 2015	1	0	B71/EP2	Z-44/EP2	EP2		
100016	16	11728	Sensor 2016	1	0	B71/EP2	Z-44/EP2	EP2		
100017	17	0674	Sensor 2017	1	0	B71/EP2	Z-44/EP2	EP2		
100018	18	10706	Sensor 2018	1	0	B71/EP2	Z-44/EP2	EP2		
100019	19	10717	Sensor 2019	1	0	B71/EP2	Z-44/EP2	EP2		
100020	20	10720	Sensor 2020	1	0	B71/EP2	Z-44/EP2	EP2		
100021	21	10715	Sensor 2021	1	0	B71/EP2	Z-44/EP2	EP2		
100022	22	10744	Sensor 2022	1	0	B71/EP2	Z-44/EP2	EP2		
100023	23	11828	Sensor 2023	1	0	B71/EP2	Z-44/EP2	EP2		
100024	24	11752	Sensor 2024	1	0	B71/EP2	Z-44/EP2	EP2		
100025	25	11735	Sensor 2025	1	0	B71/EP2	Z-44/EP2	EP2		
100026	26	11822	Sensor 2026	1	0	B72/EP2	Z-46/EP2	EP2		
100027	27	11819	Sensor 2027	1	0	B72/EP2	Z-46/EP2	EP2		
100028	28	11744	Sensor 2028	1	0	B72/EP2	Z-46/EP2	EP2		

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SEITE 1 VON 73

Fig. 50: Sensor list

You can read the following information from the sensor list:

- Network address

- Type of the component
- Number of the digits (of counter displays)
- Area
- Zone
- Parking level
- Car park
- Connection

**Info**

You can print the sensor list in the Access menu by clicking on FILE > PRINT or convert it into an Excel table for further use (cf. page 71).

## Master data

Click on the tab MASTER DATA to switch to this user interface.

The screenshot shows the 'Master data' tab in the INDECT software. The form contains the following fields:

- Name:** A text input field with the placeholder 'Enter your master data' and a dropdown menu for language, currently set to 'English'.
- Address:** Two stacked text input fields.
- ZIP/ city:** A single text input field.
- Tel.:** A single text input field.
- E-mail:** A single text input field.

A button with a right arrow icon is located at the bottom right of the form area.

**Fig. 51: Master data**

Enter the Master data of your car park. These data are shown in your statistical reports.

1. Click into the field on the right side of NAME:
2. Enter the name of your car park.

3. Proceed likewise with the other fields.

Furthermore you can change the language of the user interface (only of the program Statistics, NOT of Microsoft Access!).

## Troubleshooting

Problem	Diagnosis	Solution
The report is not printed.	The printer does not respond.	Check the printer connection and the settings.
The report window is barely legible.	The report window has not been maximized.	Maximize the report window (cf. page 69).
An exported report/sensor list cannot be found on the computer.	It was either exported in the wrong format or to the wrong folder.	Search in the Explorer for the file name or export again. Be aware of the destination folder and the format.
The message “Database defective” or “Repair database” appears.	The database has been damaged.	Steps: 1. EXTRAS 2. DATABASE UTILITY PROGRAM 3. COMPACT AND REBUILD DATABASE

## Appendix

Glossary of Abbreviations

Service and Maintenance List

Glossary German - English



## Glossary

A05VVU 4x1.5mm <sup>2</sup>	Cable from sensor to sensor
AC	Alternating current
CE	Product certification
DC	Direct current
EMC	Certification for Electromagnetic Compatibility
F-YAY 2x2x0.8	Cable from power supply module to iCOM
iCOM	Program/computer for the configuration and control of all components which are connected to the bus
IP54	Ingress Protection: dust-protected, protected against splashing water
IP65	Ingress Protection: dust-tight; protected against jetting water
IPC	Industrial PC
ISO 9001	Certification
iVIS	Visualisation program for statistical database entries and automatic control
LED	Light-Emitting Diode
mcd	millicandela
n.c.	Not condensing
RAL	Colour space system; colours represented as numbers
Ref.	Reference value Saved reference vaule of a vacant single space, that is, the distance between the ultrasound sensor and the floor.
RS232	Interface standard for serial data communication
RS422	Interface standard for serial data communication

RS485	Interface standard for serial data communication of bus systems
Tol.	Tolerance value: Percentage value indicating when the LED switches to red if a value is measured above/below the reference value.
Unterzentrale / UZ	Name of iCOM in older software versions
YYSch 3x0.6mm <sup>2</sup>	Cable from the sensor to the LED

## Service and Maintenance List

Product/Type	Interval	To-Do	Aim
Sensor	6-12 months	visual inspection, check function of space lamp by occupying the parking space	testing the switching function
Space indicator	6-12 months	visual inspection, if necessary cleaning and adjusting their positions	testing of visibility and functioning
Communication module	6-12 months	visual inspection, if necessary cleaning, fuse check	function testing
Power Supply	6-12 months	visual inspection, if necessary cleaning, fuse check	function testing
Multi-function Module	6-12 months	visual inspection, if necessary cleaning, function check, checking the outputs	function testing
Master print	6-12 months	visual inspection, if necessary cleaning	function testing
LED-Prints (all types)	6-12 months	visual inspection, if necessary cleaning, LEDs check: brightness, equally bright?, plug check	testing function and visibility
Distribution Module	6-12 months	visual inspection, if necessary cleaning, plug check	function testing
Signs (all types)	6-12 months	visual inspection, if necessary cleaning, check for damage and safe mounting	function and safety testing

PCs (all)	6-12 months	visual inspection, cleaning inside+outside, check cables and fuses, check data, check backup and archive function	testing function and readiness for use
PCs (all)	daily	By operator Check of all open error messages	testing operational reliability

## Glossary German - English

German	English
0 anzeigen ab	display 0 at
<b>A</b>	
Abfrage	query
Abstimmung	adjustment
Anlagendaten	site layer
Anzahl	number
Art	type
Ausfahrt (A)	exit (of a car in a car park)
Auslastung	occupancy
belegt	occupied
<b>B</b>	
Belegt Text	text when occupied
Benutzer	user
Bereich	area
Bereichszuordnung	section allocation
Bericht	report
Betriebsart	operation mode
Betriebsmodus	operation mode
bis	to
Bitte Stammdaten eingeben	enter main data
<b>D</b>	
Dateiname	file name
Datenbanken sichern	save database
Datum	date
Datumsabgrenzung	date range
Dauerparker	long-term parker

German	English
Dauerparkzeit	long term parking time
Deck	parking level
Deutsch	German
Drehung	rotation
Druck	print
Durchfahrt	loop
<b>E</b>	
Einfahrt (E)	entry (of a car in a car park)
einzelplatzüberwacht	with single space detection
Formular	form
<b>F</b>	
frei	vacant
<b>G</b>	
grün	green
<b>H</b>	
Hauptauswahl	main selection
Haus	car park
Intensität	brightness
Ja	yes
<b>K</b>	
Kennwort	password
Konfiguration	configuration
Konfiguration speichern	save configuration
Lesen	read
Messwert	measured value
Modul	module
<b>N</b>	

German	English
Name	name
Netzwerkadresse	network address
nicht in Statistik	not in statistics
nicht sichtbar	not visible
Nein	no
Null	zero
<b>P</b>	
Parkbereich	parking section (as a generic term for level, zone, area)
Parkbereich	area (compared to car park, parking level, zone)
Parkdauer Aufstellung	parking time diagram
Parkdeck	parking level
Parkhaus	car park
Parkhausauslastung	car park occupancy
Parkplatz / Parkplaetze	parking space / parking spaces
Parkzone	zone
PLZ	ZIP-code
<b>R</b>	
Referenzwert	reference value
reserviert	reserved
rot	red
<b>S</b>	
Schalthysterese	switching hysteresis
Schaltschwelle	trigger level
Schild	sign
Seite	page
Sensibilität	sensitivity

German	English
Sensorübersicht	sensor list
Sprache	language
Stammdaten	master data
Statistik	statistics
Statistik Intervall	scan interval (for database and analyses)
Strom Ausgang	power output
<b>T</b>	
Tabelle	table
Toleranzwert	tolerance value
Uhrzeit	time
von	from
Wert	value
<b>Z</b>	
Zähler (Zaehler)	counter
Zählwert(-Anzeige)	counter display panel
Zone	zone